

Old Slater Mill
Roosevelt Avenue
Pawtucket
Providence County
Rhode Island

HAER No. RI-1

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RI
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

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HISTORIC AMERICAN ENGINEERING RECORD

RI-1

OLD SLATER MILL

Date: 1793

Location: Roosevelt Ave. Pawtucket, Providence Co. RI

Built by: Samuel Slater

Owned by: Originally: Samuel Slater
Presently: Old Slater Mill Association

Significance: The Slater Mill was the first successful cotton factory, and the the first water powered spinning mill using the Arkwright system of Carding and spinning in North America.

Historian: G.B. Kulik

Transmitted by: Dan Clement, 1983

The Old Slater Mill is the first successful cotton factory, and the first water-powered spinning mill using the Arkwright System of carding and spinning in North America. The two and one-half story, wood frame building, with pitched roof and trap-door monitor, was restored in the 1920's to its appearance c.1835. The earliest part of the mill, a center section 43'x29', was built by Samuel Slater in 1793. Additions were built to the west end by 1801 to the east by 1817, and the bell tower on the south side was added between 1823 and 1835. The mill housed in 1805, perhaps the first spinning mule to be built in the United States. In 1955, the building was converted to a museum and currently maintains an exhibit of operating textile machinery. The museum is designed to depict the legacy of Samuel Slater and the American Textile Industry.

SLATER MILL (Slater Mill, Old)
67 Roosevelt Ave.
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Providence County
Rhode Island

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ADDENDUM TO
SLATER MILL, OLD

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Historic American Engineering Record
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Washington, D.C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD

SLATER MILL (Slater Mill, Old)

ADDENDUM TO SLATER MILL, OLD

A 2-page report was previously transmitted to the Library of Congress in 1983.

Location: 67 Roosevelt Avenue, (Between Main Street and Exchange Street); on the Blackstone River; Pawtucket, Providence County, Rhode Island.

UTM: 19.301250.4638700
Quad: Pawtucket

Date of Construction: 1793. Additions and major alterations: 1801, between 1818 and 1820, between 1828 and 1832, between 1869 and 1872. Restored to present condition in 1924-1925.

Present Owner: Slater Mill Historic Site

Present Use: Discontinued cotton spinning in 1895. Housed various manufacturing concerns until 1923. Formally opened as a textile museum in 1955. Now constituting part of the Slater Mill Historic Site and the Blackstone River Valley National Heritage Corridor.

Significance: First successful water-powered cotton-spinning mill in America.

Historians: Emma J.H. Dyson and Louis P. Hutchins, August 1991.

It is understood that access to this material rests on the condition that should any of it be used in any form or by any means, the authors of such material and the Historic American Engineering Record of the National Park Service will be given proper credit.

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INTRODUCTION

Since the mid-nineteenth century Slater Mill in Pawtucket, Rhode Island has been considered a monument to American industry and mechanical prowess. Founded in 1793 by the firm of Almy and Brown with the help of Samuel Slater, an English spinner familiar with the Arkwright system of cotton manufacture, it was the first successful water-powered cotton-spinning mill in America. As such, the Slater Mill has long been the subject of both local and national publications, drawings, photographs, academic treatises, and even a movie, "Slater's Dream." What can the Historic American Engineering Record add to this extensive catalogue of information?

This report reexamines and verifies previous historical accounts of the Slater Mill, questioning those studies that end with the dissolution of the firm of Almy, Brown and Slater in 1829. Most historians are either interested in Samuel Slater as an entrepreneurial cotton manufacturer, or in the Slater Mill as the prime example of early mill architecture and water-powered spinning technology.¹ They ignore the fact that the building continued to function as a factory for almost a century after the Almy, Brown and Slater years, and experienced some of its more dramatic structural alterations during this period. Although cotton spinning continued in Slater Mill until 1895, the factory was declining in importance compared to the much larger and more productive cotton mills built in the early nineteenth century. Nevertheless, after the Civil War Slater Mill became an important site for some of the newer artisan trades in Pawtucket, reflecting the dramatic changes that had occurred within the surrounding industrial region. Within the mill, machine shops, rug weaving, wood turning, automobile manufacture, coffin trimmings, jewelry making and many other small-scale manufacturing concerns replaced the cotton machinery.

This report attempts to trace the entire history of the Slater Mill from 1793 to the present. Our first priority was to document the evolution of the actual structure, but we also attempted to catalogue the owners of the building and its occupants (See Appendices). These people and firms add a social dimension to the story of the building crucial to understanding how the mill structure was modified for various manufacturing requirements.

The building changed considerably during the years between its founding in 1793 and the reconstruction in 1925. Almy, Brown and Slater, finding it necessary to increase the extent of their spinning operations, added to each end of the original building in 1801 and between 1818 and 1820. A stair tower was constructed on the west side sometime between 1828 and 1832. Later the mill came into the hands of cotton thread manufacturers Pratt and Spencer, who instigated another period of alteration, adding three further extensions in the years 1869 to 1872. Apart from minor modifications such as fenestration, these were the last calculated changes until 1925 when the mill was returned to what was believed to be its appearance in 1835.

We wish to thank the staffs of the Rhode Island Historical Society Library, the Pawtucket Public Library, the Baker Library at Harvard University, the New England Regional Branch of the National Archives at Waltham, Massachusetts, and especially our co-sponsors, the Slater Mill Historic Site, for giving us complete access to the entire site and collections. We also owe special thanks to Elizabeth Johnson for allowing us access to the Spaulding House Research Library and for giving us invaluable assistance and encouragement in our research. Thanks also to Patrick Malone for sharing his extensive knowledge of the mill and to James Conrad who read an earlier draft of the manuscript and offered helpful suggestions throughout the project.

CHAPTER ONE
EARLY INDUSTRY IN PAWTUCKET²

The city known today as Pawtucket began as a small settlement by the falls of the Blackstone River four miles upstream by navigable water from the important colonial commercial center of Providence, Rhode Island. The narrow and fast flowing river fell an average of more than ten feet per mile from Worcester, Massachusetts to Pawtucket Falls and, as such, was well-suited to the needs of industry.

Initially the local economy was principally agricultural; most households produced for themselves and exchanged surpluses for other goods. The commodity market run by coastal merchants barely affected Pawtucket, and the few indigenous industries produced items such as tools and other metal goods that the farmers could not easily produce themselves. The early artisans began to harness the power of the river soon after European settlement. Joseph Jenckes powered his scythe and edged tool works on the west bank in 1646, founding Pawtucket's tradition as a major iron-working center.

In 1714 a trench was dug to circumvent the main falls on the west side of the river. Initially intended to assist fish passing upstream, the trench was later dammed by the Jenckes family to provide power for their growing iron and sawmill concerns. It was along this channel, known as Sargeant's Trench, that the most important area of early industrialization developed. During the eighteenth century, the economy of Pawtucket Village gradually diversified and became more commercially important, largely because of its proximity to the increasingly successful port of Providence. Many of the developing industries were related to port activities, including iron working for ships, oil for paint, and potash for soap.

By 1730 the Jenckes family had built an anchor shop above the falls, and soon after they increased the available power by extending Sargeant's Trench a further seventy-five to one hundred feet upstream. Before 1754 the family constructed a second anchor shop nearby, firmly establishing the role of the trench as a millrace. The east bank of the river also witnessed development which included a sawmill, grist mill, potash works, linseed oil mill and blacksmith shop.

After the American Revolution, the Wilkinson family played a critical role in establishing the Slater Mill. The Wilkinsons came to Pawtucket Village from Smithfield, Rhode Island, where they had been heavily involved in iron working. Oziel Wilkinson set up a forge at the unused lower anchor shop built by the Jenckes, and later employed a number of metal workers at a screw factory.

The region was dramatically transformed after 1790 by the textile industry, instigated largely by Moses Brown, an ambitious Providence manufacturer and merchant. Brown operated a textile workshop in Providence that produced hand-spun and woven goods. When the Revolution disrupted the family's other industries, he became determined to turn textile production into a large-scale operation by instituting a system of water-frame machinery.

After several abortive attempts experimenting with locally designed machinery, Brown employed an Englishman, Samuel Slater, to build spinning machines similar to those used in England. Despite stories that Slater built the machinery single-handedly from memory, he actually only modified a 24-spindle frame designed by American artisan Daniel Anthony. Slater also received assistance in the manufacture of machine components from local

artisans. By mid-March 1790, the first machine was operational and, in 1791, after successful experiments with the new process in an old fulling mill by the falls, Brown selected a plot of land about 300 feet further upstream as the site for a new water-powered mill.

CHAPTER TWO
SLATER MILL: FIRST WATER-POWERED COTTON SPINNING MILL
(Construction 1791-1793)

On November 12, 1791, Moses Brown bought a plot of land, with Pawtucket metalworker Oziel Wilkinson, in Pawtucket Village, North Providence from widow Cynthia Jenks, land that was part of her husband Jonathan's estate. Costing three hundred and fifty Spanish milled dollars, it consisted of approximately seven acres with accompanying water rights situated above the falls, on the west side of the Pawtucket River.³ Having sold a part of his interest to fellow Quaker Thomas Arnold, Brown offered the residual to the firm of Almy and Brown on which to build the new mill. Brown provided the financial backing for the company he had formed in September 1789 with his cousin Smith Brown and son-in-law William Almy, and drew a share of the company profits without liability for any debts incurred.⁴ Almy and Brown formed a separate firm distinct from the remainder of their manufactures, with Samuel Slater, for the sole purpose of operating the new spinning mill at Pawtucket. Slater's role was to oversee construction and, after completion, to control manufacture.⁵

The first order of business was to build the dam to power the water wheel in the proposed spinning mill. In July 1792, construction of the wood frame structure began above the main falls at Pawtucket, about 300 feet upstream from the fulling mill where Slater had first successfully run cotton spinning machinery. Oziel Wilkinson, one-third owner of the property and water rights, directed the construction which would span the entire one hundred and eighty-five feet width of the Blackstone River.⁶ By the end of August the builders had completed the framing, which consisted of "Fifty ox-cart loads of hewed timber four thousand feet of two-inch plank and one thousand weight of wrought iron."⁷

This new dam, an impressive structure for its time, elicited more than admiration from the small manufacturing community at Pawtucket Falls. Three locals, John Bucklin, a miller, and Stephan and Eleazer Jenks, blacksmiths, destroyed the partially completed structure on August 31st. Complaining that the dam prevented the natural flow of water, these three men, who all had water privileges at the main falls downstream, admitted to the charges in court and based their defense on common law rights to use of the river. In spite of a protracted legal battle that eventually ended in settlement, construction of the dam quickly resumed and, despite difficulties such as rotten planks, was finished by the end of November when Slater asked Brown to "come up to day as you have not yet seen the water run over the dam."⁸

In constructing the dam, the owners of the property arranged to enlarge and extend "Sargeant's Trench," which circumvented the main falls down river.⁹ The new entrance to the trench was dug just above the proposed factory house where the "Great Flume" would take water off the mill pond created by the dam. Passing directly under the south end of the spinning mill building, the water would then flow through the so-called "Swift Flume" and into Sargeant's Trench, feeding the water wheels of the mills below. Once excavated, the trench needed flooring, and gates needed to be erected to control the flow of water under the mill and into the wheel pit. Abisha Washburn, housewright, completed the "floom" and water sluice by April for five pounds, eight shillings. Because of the unusual location of the mill building over the flume, constant leaking must have occurred where the wooden support columns met the wooden planking of the trench, and the flumes often required attention in subsequent years. In 1795, just two years after the spinning mill began production, Slater asked for planks to repair the flume

and soon wrote again complaining about its poor condition.¹⁰

To drive their machinery, Almy, Brown and Slater had to have a wheel built that would use the six and one-half foot drop of the falls to best advantage. Their spinning mill, the first building on the flume carrying water to Sargeant's Trench and to the lower mills, took water off the top of the dam. Because of many subsequent modifications to the trench, the configuration of the original headrace and tailrace is unknown, but it is believed that the still-existing tailrace arch is original to the first mill structure. This stone arch was completed by November 13, 1793 by the mason Andrews.¹¹

Common water wheels in late eighteenth-century New England included the overshot, undershot, and breast designs. The decision of which wheel to install depended upon such factors as abundance of water, height of falls or head, and needed horsepower. Millwrights often used the undershot wheels, "the simplest and most versatile of the old style water wheels," although they were only about fifteen to thirty percent efficient.¹² The overshot wheel, while more efficient than the undershot design on the order of two-to-one, needed a high head.¹³ The breast wheel combined the efficiency of the overshot wheel with the versatility of the undershot wheel.¹⁴

Evidence suggests that the first wheel used in Almy and Brown's spinning mill was of breast design, located outside the building on the south or river side and covered by a wheel shed, a common arrangement of the period. George Jenks testified in 1823 that "...on the Great Flume at the west end of the upper dam there was formerly three undershot and a Breast Wheel."¹⁵ In November 1793, Samuel Slater became anxious about protecting the exposed wheel from the ice and snow. On November 13th, he asked Almy and Brown for "pine boards to...cover the wheel" and the following day he further wrote that he was "[m]uch afraid that the wheel will not be inclosed timely so as to be prepared for the cold weather which is near at hand."¹⁶ By the end of November, however, the "wheel is covered," even though Slater evidently remained uncertain whether to cover the wheel roof with boards or shingles.¹⁷ There is no known material evidence to suggest whether the wheel axis was longitudinal or transversal in relation to the building, but it is more likely that it was transversal. If the axis were longitudinal, the water would have had to come off the trench and onto the wheel at a ninety degree angle, an inefficient and awkward arrangement. With a transversal axis, the water would flow directly and evenly on to the wheel.¹⁸

The power system in the new factory differed in arrangement from other indigenous water-powered mills. Unlike a grist, bark, or fulling mill wheel, which powered one shaft at one particular speed, the water wheel in a spinning mill needed to run a number of different machines such as pickers, carding machines, and spinning frames all operating at different speeds. The new mill in Pawtucket Village necessitated a complex system of power distribution through shafts and pulleys.¹⁹ Though little primary evidence remains of the transmission system, it is known from early bills that a Mr. Healy provided a shaft which cost an impressive 3 pounds, 14 shillings and 3 pence. Materials ordered for the wheel include lignum vitae, a very hard heavy wood, commonly used for ball bearings.²⁰

In the meantime the building of the factory house itself had begun. To enable Samuel Slater to devote his energies towards the new construction, spinning ceased in the old fulling mill. In March 1793 Almy and Brown were forced to tell Elisha Gott "it is not in our power to supply thee at present with the yarn thou wishes for - our spinning mills having been for some time past stopped by unavoidable circumstance."²¹

Almy and Brown's accounts show that they employed mainly local artisans and laborers in the construction of the new mill. Housewright Abisha Washburn was responsible for construction, charging forty-five pounds sterling for "building the mill and finding window frames and sashes."²² Since he had come from nearby Attleborough, Almy and Brown paid for him to lodge with carpenter David Jenckes.²³ Benjamin Kingsley plastered and whitewashed the interior of the building for a payment of ten pounds, six shillings and three pence, while the outside was painted by James Mason for twenty dollars.²⁴ David Martin supplied the sashes and fitted the glass for the twenty-eight windows, and David Jenckes did carpentry work.²⁵ Slater, Almy and Brown purchased materials from various sources: wood was supplied by Andrew Taylor, Oliver Blackinton, Benjamin Shepherd, stone by William and Inigo Evelith, and sheet iron by Guile.²⁶ The Providence merchant Cyprian Sterry sold Almy and Brown a bell weighing sixty pounds for six pounds sterling in November 1793, part of a shipment imported aboard the sloop "General Green" which had sailed into Providence on September 23rd.²⁷

Valuable information about the original dimensions of the mill is provided by the plastering bill submitted by Benjamin Kingsley. This document confirms that the structure was initially 43 feet long by 29 feet wide and consisted of two stories with an attic or garret under the roof (See Figure 1). There was one outer door and twenty-eight windows, each with twenty-four lights.²⁸ The first and second floors were both partitioned, with rooms designated as the spinning room, store room and card room. There were internal doors into each of these rooms and into the garret, although the garret door may have been an external door through which bales of cotton were hoisted. The bill also reveals that the inside of the roof was plastered and that all the plaster work was whitewashed in order to maximize the amount of light available. Plastering also helped to insulate the building and, by coating much of the exposed wood, to decrease the risk of major fire damage. Samuel Slater must have been aware of the possibilities for fireproofing factories since in Derbyshire he was apprenticed to Jedediah Strutt whose son, William, was one of the first factory masters to thoroughly explore fireproofing techniques.²⁹

Despite many additions and alterations to the mill, it is still possible to locate its original perimeter situated directly over the flume in the center part of the mill. The available evidence shows that its construction bears similarities with contemporary domestic building. Of heavy timber construction, the original section is forty-three feet in length, outlined by seven oak posts along each side. The posts were haunched to support the transverse beams which were tenoned in and fastened with wooden pegs or trenails. The seven bents (two posts with a connecting beam) are connected at second floor level with intermediate girts and are tied longitudinally by a single forty-three foot wall plate along each wall.

Of the twenty-eight windows mentioned by Kingsley, it is reasonable to assume that one was positioned in each bay on both of the main floors, leaving four to be distributed between the two gable ends, with the outer door on the north end away from the river. The external walls were probably vertical planking of one-inch oak, as seen in the river end addition of 1818-1820, with pre-constructed window frames applied afterwards, since these were common practices.

Unfortunately none of the original roof supports survive. The oldest beams, on the river (south) end, date to about 1819. These beams suggest that the first roof used the common rafter system with collar ties and no ridge pole. There is little indication as to the inclusion of a clerestory or trapdoor monitor in the original roof. Some historians believe that Samuel Slater took many of his ideas for the Pawtucket mill from Arkwright's second

mill in Cromford, England, built in 1776-7, which has a clerestory. However assumptions about similarities are impossible because no evidence directly links the two mills. We can say that Slater would have been familiar with features such as clerestories which were included in Arkwright's buildings. Evidence against a clerestory in the new mill in Pawtucket is offered by the plastering bill since, while Kingsley includes deductions for the spaces left for windows and doors, he does not mention any such for the roof. This evidence also tends to preclude the possibility of a skylight. Moreover given the short length of the mill in 1793, it is possible that the garret could have relied entirely on the windows in the gable ends for light, especially as the plaster on the inside of the roof was coated with whitewash.

Whether or not a belfry appeared on this first spinning mill is also difficult to ascertain. As noted above, Almy and Brown purchased a sixty pound bell in November for the mill, but a bell of this weight could easily have been hung on the side of the building. One possible clue is provided by a bill from Abisha Washburn, the housewright, dated April 1793. In it he included "To Scuttle & Leading Belcony & Shingleing."³⁰ A scuttle is a roof hatch and the "belcony" may have referred to the belfry. Unfortunately no other primary evidence has been found to support this conjecture.

Correspondence between Slater in Pawtucket, and Almy and Brown in Providence indicates that the mill was lit by oil lamps, although candles were also used.³¹ Heating was by stoves, as indicated when Slater wrote on November 9th: "the chimney is like to be done today. Wish you would forward the stoves as fast as possible." There appears to have been some delay since on November 14 he wrote again "the children are quivering this morning at seeing it snowy and cold and no stoves."³²

It is generally accepted that the machines in the new mill commenced work on July 12, 1793.³³ Although this exact date cannot be verified, Almy and Brown's correspondence offers some evidence. On May 31, 1793 they informed Peter Cott, "we obliged to erect a new water works...which are now nearly completed," while, on July 24, Slater told Almy and Brown that Abisha Washburn, the housewright, was expected to finish work on the following day.³⁴ The earliest piece of evidence stating that work is going on in the mill is a letter from Almy and Brown on August 14, 1793. "We have our spinning mills now completed and again in motion and shall soon be able to supply you with yarn."³⁵

THE EARLY COTTON SPINNING YEARS, 1793-1801

Spinning production was soon under way even though problems seem to have arisen with the quality of cotton being supplied to the mill. "[W]ish you to send some [unpicked cotton] that is not very dirty as our pickers are not very perfect at present," Slater complained to his partners in September 1793.³⁶ The problem with the quality of the pickers appears to have continued for in March 1795 Slater asked for "a bag of clean cotton that would do to work without picking...until more frames are made and the pickers got better."³⁷ The firm concentrated on spinning in their new mill in Pawtucket Village and Slater sent the spun yarn to Almy and Brown in Providence.³⁸ By mid-June 1794, Almy and Brown made available their stocking frames that had no use in their spinning operations: "We have three stocking looms which we will sell one of 20, 22 and 24 gauge. They have been idle for a twelve month past, boxed up so as we suppose not to have taken damage."³⁹

Over the next few years, the firm added new machinery to the inventory

and modified the machines themselves. Artisans in Pawtucket and Providence manufactured the necessary parts to order.⁴⁰ In response to a request for thread, Almy and Brown detail these improvements: "We expect to erect a machine to double and twist our cotton for stockings by water as soon as we increase the number of spindles for spinning which probably will be soon. Then we can afford our yarn [sic] cheaper than at present."⁴¹ However, a constant problem for the firm was recruiting labor necessary to run its new machinery. In April 1795, after building a new spinning frame, Slater complained that "the new frame has been ready several days [but it cannot be operated until]...the additional hands are gotten."⁴² By 1797, after four years of operation, the firm had successfully added more machines and, apparently, the operatives to run them. The increased production would create a need to expand the market for the firm's goods.

The first expansion to the spinning mill in 1801 increased the length of the building 57 feet to the north. (It should be noted here that although most historical documents refer to the two ends of the mill as the east and west ends, the mill actually sits on a north-south axis. Throughout this report, in order to correlate with the HAER drawings, the river side is noted as the south end and the street side will be noted as the north end). The building's dimensions in October 1801 are recorded in the policy records of the Providence Mutual Fire Insurance Company and given as "one hundred feet in length and twenty-nine in width, Two Stories high" (See Figure 2).⁴³

In August, the time of seasonal low water on the Blackstone River, construction began on the new addition and continued through December. Orders for the lumber, window frames and roofing materials can be found in the correspondence between Samuel Slater and Almy and Brown.⁴⁴ "...[T]he carpenters are now preparing to plank the Addition, [and] Your speedy attention will be required to ascertain [sic] where the Door is to be," demanded Slater by the end of August.⁴⁵ After the roof frame was completed by early September, Slater sought information about sending a plasterer in from Providence.⁴⁶ David Martin, who had prepared and glazed the window sashes for the original mill, also provided sashes for this addition.⁴⁷ Lewis Peck supplied the oak boards and nails.⁴⁸ Unfortunately, no material evidence for the roof line of this extension remains, but there is reason to believe that the basic configuration had not changed since 1793. Architectural historians have speculated about the date of the trapdoor monitor, but there is no evidence to suggest it appeared on the mill at this early date. In 1801, the total building length of 100 feet could still reasonably be illuminated by the two gable windows and the whitewashed plaster in the upper floor, especially if windows appeared in each end of the attic as implied by Slater's request for "sashes for the Garrett" on December 1st.⁴⁹ A belfry to house the bell dates at least to this addition. A sketch of 1812 from below the lower falls shows a belfry atop the northern end of the building.⁵⁰ Other evidence to suggest the presence of a belfry and bell comes from records of the Pawtucket Engine Company No. 2, a fireman's association formed in 1813. At their monthly meeting in 1813, it was voted that "all monthly meetings in future be called at the ringing of The Factory Bell of this village."⁵¹

FURTHER EXPANSION: 1818-1820 ADDITION

For almost the next twenty years, the mill retained the same dimensions. The firm of Almy, Brown and Slater, like other cotton manufacturers, experienced difficult times in the years following the War of 1812. The severe economic depression of 1819 must also have affected the firm's affairs, but pressures to expand the mill's capacity resulted in an addition between

1818 and 1820, a forty-foot extension to the river (or south side) which increased the overall length to 140 feet (See Figure 3).

Evidence for the date and dimensions of this addition comes primarily from testimony given in the Sargeant's Trench case, the protracted legal battle over water rights that raged for more than ten years in the Federal Circuit Court of Rhode Island. Besides offering invaluable information on the Slater Mill, the testimony shows explicitly how the manufacturing community had grown in Pawtucket between 1800 and 1820, and it also exposes the serious conflicts between mill owners that had arisen over riparian rights. In 1823, after two seasons of exceptionally low water in the drier months of August and September, mill owners on the lower end of the Trench and on the main falls sued those on the upper end of the Trench over the quantity of water allowed to flow.⁵² From the records of this legal case, four different testimonies date the river-end addition to somewhere between 1818 and 1820.⁵³ The new dimensions (140 by 30 feet) are confirmed by an 1823 plat drawn by Thomas Mann that was used as evidence for the case.⁵⁴

The reasons for this addition are not entirely clear. For at least the first few years after the expansion, cotton preparation and spinning continued to be the principal tasks carried out in the mill. Nathaniel G. B. Oexter, clerk for the firm of Almy, Brown and Slater, testified in 1824 that "the new part on the [south] end of it which is forty feet long has no machinery in it except a picker."⁵⁵ For such a substantial addition, it appears surprising that only a picker would be housed there even though the dirty cotton bales would require additional space. One possible explanation is that there was not sufficient power to drive any more machinery because there was still only one wheel powering the mill in 1823.⁵⁶ It has been suggested that the firm may have intended the addition to house power looms, although evidence of power looms working in the building does not appear until 1832.⁵⁷

ADDITION OF STAIR TOWER (1828-1832)

By the late 1820s, the spinning capacity of the mill was unchanged since the extension of 1801. In 1828 the mill could house about 1,500 spindles and, according to various sources, had operated from 1000 to 1450 spindles since 1804.⁵⁸ The only record for the number of operatives in the mill for this period is found in the 1820 Manufacturers Census for Massachusetts and Rhode Island. By that year, the mill employed 13 men, 5 women, and 52 "boys and girls" and manufactured "ticking, plaides, stripes, sheeting & shirting" from Sea Island and Upland cotton.⁵⁹

The next addition to the building, a stair tower on the west side of the structure, resulted in several important architectural and technological changes in the mill, and may help further explain why the 1818-1820 addition was not used to full advantage (See Figure 4). The stair tower provided access to all the floors on the mill, yet isolated the stairwell from the machinery, a common means of preventing the spread of fire from one level to another.⁶⁰ Fire damage had been a constant concern to cotton mill owners because of the highly combustible nature of the cotton fibers and dust. This was especially true for the proprietors of wooden factories such as the Slater Mill. The first recorded fire in 1811 had caused little damage, but it must have reminded Slater and his associates of the dangerous nature of their enterprise.⁶¹ A number of major mill fires in Rhode Island in the 1810s and 1820s forced at least one fire insurance company to cancel future policies insuring cotton mills and was instrumental in changing mill architecture during this period.⁶² At Almy, Brown and Slater's mill, a larger fire in

1828 "caught in the carding room;" although the damage was again light, it must have spurred the firm to take further precautions by making some needed alterations.⁶³

The stair tower also permitted the firm to increase its power by adding a second water wheel under the new addition. The gateway aperture under the mill was enlarged almost two and a half times between 1824 and 1836. In 1824, when the surveyor Thomas Mann measured the apertures along Sargeant's Trench for his testimony in the water rights case, he noted that "the Gate Way at Almy Brown and Slater's Factory being the first on the Great Flume is twelve feet, two inches wide." By 1836, the opening was recorded as 31 1/4 feet, which suggests that a greater aperture was need for the second wheel.⁶⁴ More importantly, however, the Schedule of Manufactures in Rhode Island of 1832 noted that the mill's capacity had increased from 1,500 spindles to 2,300 spindles and that 48 looms had been added to the manufacturing process.

CHAPTER THREE
SLATER MILL: CENTER FOR ARTISAN INDUSTRY
(1833-1865)

By the end of the 1820s the Slater Mill was no longer the dominant site it had been less than thirty years earlier. Several other mills of greater capacity were operating within the area, including those in Smithfield, Warwick, Scituate, and Cumberland, and the focus of the cotton textile industry had shifted away from Pawtucket as the center of innovation. This shift was partly due to restrictions imposed by the supply of waterpower. By the early 1820s, water resources in Pawtucket were fully extended; the relatively low head of the dam could generate only a limited amount of power for all of the local mills, including Almy, Brown and Slater's. Moreover, the Blackstone River was liable to run low in the dry summer months.⁶⁵ This problem was exacerbated by a drought in the early 1820s that sparked the acrimonious Sargeant's Trench water rights case, making expansion requiring greater power unlikely in this period. Even after the extended drought, certain material disadvantages made it difficult to adapt the mill to large-scale manufacture. After the 1840s, when competing manufacturers were able to take advantage of the benefits of steam over water power, the mill's wood construction made it impossible to raise the power capacity by the installation of a steam engine.

Furthermore, the power loom was perfected in 1815 by Scottish weaver William Gilmour, a recent immigrant to America. Soon after his arrival, Gilmour offered to work for Almy and Brown but they decided against the introduction of powered weaving at this stage. Many other New England mills began introducing power looms and the town of Lowell, Massachusetts became the new focus of the cotton industry.⁶⁶ Although Almy and Brown did introduce thirty looms at their four-story Smithfield factory by 1820, they did not bring weaving to the Slater Mill until between 1828 and 1832.⁶⁷ After building Smithfield and other mill complexes, the partners no longer concentrated their energy on the Slater Mill: the Smithfield mill operated 9,500 spindles by 1832, while the "Old Mill" held a mere 2,300.⁶⁸ In addition, Samuel Slater had already expanded his business interests into Dudley and Oxford, Massachusetts, and into Connecticut. Consequently, after the addition of the stair tower by 1832, the structure of the mill remained largely unaltered for over thirty years. Internally, however, changes were taking place as these decades witnessed increasing diversification into other forms of manufacture, and several transfers of ownership. As the mill became obsolete for large-scale cotton-spinning, emphasis moved towards the accommodation of an assortment of smaller concerns.

In 1833 the mill was operated by William Almy and William Jenkins, the husband of Almy's daughter Anna. Anna Jenkins had inherited a portion of the mill from her uncle, Obadiah Brown. The economic collapse of 1829 forced Samuel Slater to relinquish his share to Almy and Jenkins, and the firm of Almy, Brown and Slater was dissolved in August 1829.⁶⁹ In 1836 it was reported that "some of the machinery, used at the starting of the factory by Mr. Slater is still in operation and is exhibited to the numerous visitors to the establishment."⁷⁰ By now weaving was an important part of the business, with forty-eight looms as well as the 2,300 spindles. The mill employed eighteen men, thirty-four women and forty-eight children working a twelve hour day.⁷¹

The first major changes took place after the death of William Jenkins on March 10, 1846.⁷² William Almy had died in 1836, leaving Anna Almy Jenkins as the sole owner. Having no wish to continue the business herself, she

leased the entire structure to Gideon C. Smith and Company for a term of ten years.⁷³ In 1850 the company produced 352,000 pounds of sheeting and shirting and employed twelve men and thirty-five women.⁷⁴ By 1853 it was reported that the mill "contains fifty-two looms giving employment to fifty hands."⁷⁵

When Anna Jenkins died in December 1849 she left the property to her daughter, Anna and son, Moses, both minors at the time.⁷⁶ As soon as they were of age they conveyed the mill to the family attorney, Dr. Samuel Boyd Tobey, "for the more convenient management and the better improvement of said estate and for the security and preservation of the same and to render the same more productive."⁷⁷ Tobey was to manage the estate, pay for repairs, insurance and other expenses out of income generated from the property and make over the remainder to Anna and Moses for their use.⁷⁸

As soon as the lease of Gideon C. Smith expired Tobey sold the mill by public auction to Henry and Edwin Jerauld, at a price of \$19,000 for "the two lots known as the 'Old Slater Mill Lot' and the 'Bleach Yard Lot'" with accompanying water rights.⁷⁹ The notice in the 'Sales at Auction' column of the Providence Daily Journal stated that at this time the mill contained machinery consisting of "twenty-two eighteen inch cards, one Railway Drawing Head, one Drawing Frame, three geared speeders, eighteen Throstle Frames, two Spoolers, two Warpers, two Dressers and thirty-nine looms".⁸⁰

The new owners bought the property to continue its use as a cotton spinning manufactory under the name of H. Jerauld & Son, but their business was hampered by financial difficulties. Tobey allowed them a long credit with no initial payment. When he had still received nothing by January 1857, he and several other creditors were forced to make an agreement with the Jeraulds, allowing them to postpone repayment and extend the mortgage until they had reached a less precarious financial position.⁸¹ The Jeraulds agreed to lease out the mill at the best possible terms and to begin repaying their creditors, beginning with Tobey, as soon as convenient.⁸²

Meanwhile the Jeraulds' tenants had better fortune. Known later as the Pawtucket Haircloth Company, one tenant business consisted of Freeman Baxter, the principal promoter, David and James Ryder, providers of the capital, and George and Alfred Littlefield. In December 1856 they leased the first story, with the use of the power provided by "ten feet of water as preserved in the upper dam in Pawtucket village and an independent water wheel...and the line of main shafting with pulleys as now fitted up."⁸³ Success came quickly for the Pawtucket Haircloth Company; by 1863 the company was assessed at \$300,000, and in 1864 the increase in their operations led them to move to larger premises in nearby Valley Falls.⁸⁴ Another tenant of the Jeraulds' was Joseph Smith II, who leased a plot of land on the east side of the mill in 1856 "for the purpose of erecting a mill for the manufacture of cotton batting...Lessors to furnish four horse power to mill of said lessee as soon as same built."⁸⁵ This building appears in many photographs (Photographs RI-1-48, 52, 54, 55) which survive from the period after this date, showing a line of shafting to carry power from the Slater Mill.

In 1859 the Jeraulds managed to lease the second story of the mill to Benjamin and Samuel Fessenden of the Fessenden Twine and Cordage Company. The contract included "all the power contained in a Breast water wheel under said mill together with a main line of shafting now fitted up, reserving in the wheel four horse power under lease to Joseph Smith 2nd."⁸⁶ In 1860, this firm employed fifteen men and ten women to manufacture twines and cords.⁸⁷ The Jeraulds' operation limped on for almost a decade after they purchased the property, ceasing periodically when their credit ran out. The years between 1861 and 1864 were very quiet. The factory, its machinery and accompanying

leases and debts were put into the hands of trustees in February 1865 and sold in May.⁸⁸ By December 1865 the company was reportedly "played out."⁸⁹

REGENERATION BY PRATT AND SPENCER
(1865-1872)

Francis Pratt and Job L. Spencer bought the Slater Mill lot and Bleach Yard lot, with rights to fifteen sixty-fourths of the water of the Blackstone River, for the sum of \$28,000 in 1865.⁹⁰ Pratt and Spencer were an established manufacturing partnership who produced yarns, twines and threads. To raise the money they mortgaged the property to Job's father, Gideon Spencer, for \$40,000, which also enabled them to undertake extensive improvements; soon after their arrival they spent \$15,000 on alterations.⁹¹ The first of these may well have been to increase the power capacity of the mill by replacing the two water wheels with turbines. Information contained in the lease agreement between the Jeraulds and the Fessendens shows that the machinery on the mill's second floor was powered by a breast wheel in May 1859. The lease agreement between Pratt and Spencer and their first major tenant, N. P. Hicks & Co., drawn up in April 1867, states that by this time power to the second and attic story was supplied by "the smaller iron wheel" (i.e. a turbine).⁹² Additional information is given in Webb's Statistical Gazetteer, published in 1869, which states that "the power is supplied at the Slater and brick mills by a Kilburn and Lincoln iron wheel [of] 17 horse power."⁹³ Given their severe financial problems, it is unlikely that the Jeraulds would have been able to make such costly improvements. Therefore the probable date for the change from water wheels to turbines is between May 1865, when Pratt and Spencer bought the property, and April 1867.

It is possible that Pratt and Spencer were also responsible for the raising of the mill. Physical evidence indicates that the height was increased almost two feet by inserting additions at the base of the posts and building the walls up with brick. This change is particularly evident in the south end addition where the original sill is 1 foot, 9 inches above floor level, and in the stair tower where the two outside posts and the stair post have clearly been extended, placing the date of this elevation after the 1828-1832 extension of the stair tower. The floor was left at its original level, allowing the owners to increase the ceiling height of the first story. This indicates that the purpose was not to increase the space in the basement to make room for bigger water power machinery, or to prevent flooding, but to accommodate larger textile machinery. Unfortunately there is no known documentary evidence of this raising, making it difficult to accurately date or specify what this new machinery might have been.

The firm was evidently successful in the new premises but only required the first floor for their operations. Pratt and Spencer looked for tenants to supplement their income.⁹⁴ On April 29, 1867, N. P. Hicks & Co. signed a lease to occupy, for a term of five years beginning July 1, the second and attic stories of the mill, supplied with fifteen horsepower from the smaller turbine; a room in the rear of the upper story of the weave shop built by Joseph Smith II, with two horse power from the larger wheel; and the privilege to "build and occupy a brick shop on the bank of the trench between weave shop and mill."⁹⁵ The company was formed by Nathan P. Hicks, John C. Sprague and William Henry Shaw for the purpose of manufacturing ring travellers. Hicks had devised a method of improving the rings to make them run more smoothly. Webb reports that in 1869 N. P. Hicks and Co. occupied the second floor, with "machinery for the manufacture of spinning rings, straightening wire and for general repairs, having a capacity for producing one thousand rings each week."⁹⁶ The brick shop erected by the company was twenty-foot square and contained three furnaces for "annealing purposes," one furnace for hardening and four burnishers.⁹⁷

Despite claims that his invention would revolutionize ring spinning, Hicks suffered financial setbacks for the first few years of operation. A credit report in 1869 divulged that the firm was "not doing any business, is mortgaged up and embarrassed."⁹⁸ Hicks later operated as manufacturing agent for Olney Arnold, but his spinning rings did not really become successful until after 1871 when E. Jenckes and Co. approached him with an offer to provide the financial backing if he would work for them, and the business expanded to include the manufacture of cotton banding and twine. In 1876 Reverend Messina Goodrich reported "about four years ago they used three thousand pounds of cotton weekly for banding and twine; they now consume double the amount. At that time they produced from 25-30 tons of belt hooks and wire goods annually, but they have also doubled that product."⁹⁹

At some point around 1869 a structural addition was made to the west side of the mill. This addition consisted of the one story extension illustrated in Photograph RI-1-48, which shows that it was built out to the depth of the stair tower, had a flat roof and was lit by roof lights as well as by windows, of which five are evident on the north end.¹⁰⁰ It is likely that this addition was made in two stages, the first extending from the north edge of the mill south as far as the side of the trench (See Figure 5), and the second filling in the space between the new section and the stair tower (See Figure 6). Evidence is provided by a painting of unknown date (Photograph RI-1-47) which suggests that at one time the addition stopped short of the tower. This source alone would be insufficient evidence of this intermediate phase, but Photograph RI-1-58, taken before the major restoration project in 1924-5, also shows a corner board part way along the west side, suggesting that the two wall sections were put up independently.¹⁰¹

Evidence helping to date these alterations is found in Webb's Statistical Gazetteer of 1869. Webb describes the first floor as having two rooms, each 70' x 28', which means that in 1869 the mill still had the same dimensions that resulted from the 1818-20 southern extension.¹⁰² A newspaper report enables us to date the final addition to 1872, confining the intermediate alterations to the period between 1869 and 1872.¹⁰³ In addition, a credit report on Pratt and Spencer in April 1871 discloses that although they "made money from the start and spent \$15,000 on improving the property [they] [h]ave done very little in the past two years as the business has fallen off with the hoop skirt trade."¹⁰⁴ This suggests that any improvements would have been done no later than 1869 and is further supported by a second mortgage, dated January 16 1869, between Pratt and Spencer and Gideon Spencer. Gideon lent the firm \$6,000 in 1869, a sum which may well have been used for the improvements described above.¹⁰⁵ The most likely explanation for such a large increase in the size of the mill is that Pratt and Spencer realized that letting out space in the building for manufacture was a lucrative business. They never extended their own textile operations beyond the first floor, therefore the additions to the second and third stories must have been for the benefit of their tenants. It is possible that E Jenckes and Co. required more space to expand their production and that, not wishing to lose a valuable tenant, Pratt and Spencer agreed to pay for the alterations.

Photograph RI-1-48 also shows that other changes were made in the fabric of the building. This is the only known photograph that depicts the north end of the mill before it was remodelled by the 1872 alterations. It is likely that the wall shown here was much as it would have been in 1801 after the first addition. Evidently the door to the upper story had been partially blocked to form a window; this may have been done soon after the addition of the stair tower, providing an additional entrance to the attic. A line of shafting from the mill to the weave shop on the left of the picture is also visible.

Another small addition was made to the east wall of the mill in the form of a toilet tower situated over the mill race with access from all three floors (See Figure 6). It can be seen on Photograph RI-1-48 as the small gable above the roof line on the left side of the mill, indicating that it had been added by about 1869. It was still there in 1924, shortly before restoration (Photograph RI-1-64).

In January 1873 the Pawtucket Gazette and Chronicle published a list of the real estate improvements in Pawtucket for the previous year. Among those by Henry A. Mulliken is the following entry: "Repairing and putting new roof on old Slater Mill for Pratt and Spencer; cost about \$3,800."¹⁰⁶ Mulliken is referring to the extensive alterations undertaken by the partnership, dramatically enlarging and changing the north end of the mill.

There are numerous photographs (Photographs RI-1-52 through 60) showing that the structure was expanded by elevating the recent west addition to the height of the rest of the building and shifting the roof ridge at the northern end to retain the symmetry. The new roof was raised so that the attic floor formed a full story, lit by a clerestory along both sides in place of the old trapdoor monitor (See Figure 7). At the north end, the original first floor door and windows remained, including those in the single story addition, while the second floor and new third floor had several windows added. The south end of the building remained largely unchanged.

FINAL MANUFACTURING YEARS (1872 - 1924)

By the late nineteenth century the mill was recognized as a historically significant building. Flaunting the building's heritage, the owners painted "Old Slater Mill" across the top floor of the north facade sometime between 1872 and 1886 (Photograph RI-1-52). The mill became the center of national attention during the Cotton Centennial Celebration of 1890. The official brochure of the celebration showed the mill at various stages of its development, and some enthusiasts attempted to reconstruct the original appearance of the building in 1793.¹⁰⁷ Although many of these speculations were inaccurate, they demonstrate the building's special significance in the national consciousness. Ironically, soon after the Cotton Centennial, cotton spinning ceased in the Slater Mill for the first time since the summer of 1793. Nevertheless, the mill continued to house various manufacturing concerns.

After 1872, with the additions financed by Pratt and Spencer, the building experienced minor changes in its outward appearance. Valuable information for this period is found in "Barlow's Insurance Survey of 1876" documenting the five building complex around the Slater Mill. According to this report, the main building was "in part quite old but in good repair" with "walls box plastered in part, floors open finish, stairs enclosed, no elevator, ladder to roof, lightning rod."¹⁰⁸ Barlow's detailed exterior drawing shows fire ladders to the roof on the north wing and a water hydrant situated over the trench near the stair tower. The map clearly shows a power shaft between the Slater Mill and the old weave shop, a two-storied brick and frame building to the northeast and a "wire rope" between the main building and the "Annealing House" built for the E. Jenckes and Company furnace for their ring traveller business.¹⁰⁹ In both instances, the wheels under the Slater Mill powered machinery for adjacent buildings. The mill was still heated by coal stoves, but now illuminated by city gas, and some kerosene lamps.¹¹⁰

Other changes occurred during these years in response to the needs of

the several manufacturing operations inside the mill, such as window alterations, external shed and staircase additions, and such amenities as the addition of a rope-pulley elevator on the north end around 1886 (Photograph RI-1-52). Unfortunately, these alterations cannot always be explained. For example, a second story shed projection with a smoke stack appeared at the corner of the stair tower and south end by 1890, but was removed by 1895 (compare Photographs RI-1-56 and 57) and a dormer window appeared on the west side of the river end third story around 1895 (Photograph RI-1-59). The dormer provided light in the darker third floor south end, but it is unclear for what purpose.

By 1902, the owners had updated and modernized the building's systems; steam rather than coal stoves provided heat to the building and electric lights supplemented the gas lamps.¹¹¹ Water continued to supply power to the machinery throughout the main building and to the old weaving shop on the north side.¹¹² The only major alteration made in the years 1872 to 1923 resulted from two fires in 1912. The building's owner, Job L. Spencer, was forced to rebuild and re-frame the third story roof over the north wing. Because of this repair work, the Slater Mill had a flat roof until the restoration of 1924-25 (compare photographs RI-1-60 and 62, see Figure 8). However the full gable at the north end was retained in front of the new roof to allow continued use of the elevator (Photographs RI-1-61 and 63).

After Job Spencer ceased cotton manufacturing in 1895, the first floor remained vacant until 1900 when James A. Moncrief and his Pawtucket Steamboat Company moved from a previous location at Hicks Mills.¹¹³ This firm operated a steamboat business on the Pawtucket River below the falls and used the Slater Mill as a machine shop.¹¹⁴ The firm manufactured "steam carriages" in 1901 and 1902 and claimed it could produce "three types of carriages weighing 1,700, 1,100 and 800 pounds respectively."¹¹⁵ Although Moncrief Senior was not successful in this concern, his son continued the machine shop business until restoration began in 1924.¹¹⁶ The Moncriefs shared the first floor with William Hill, an afghan shawl manufacturer, who occupied the rear (river side) of the building.¹¹⁷

The second floor witnessed a far greater variety of tenants.¹¹⁸ E. Jenckes and Company, which had occupied the expanded second floor after merging with N. P. Hicks, departed for larger premises by October 1879.¹¹⁹ After remaining unoccupied for one year, the space was used by various concerns including J. Crocker and Sons, specialists in coffin trimmings and other wire and sheet metal goods; Frank I. Frost, manufacturer of jewelers' tools; Owen E. McKenna, belting, lace leather manufacturer and card clothier; Thomas J. Brennan, carpet cleaner and rug weaver; the New England Paper Tube Company, the Pawtucket Electro-plating Company; and the Standard Braid Company.¹²⁰

The third floor, which was substantially expanded and lit by a clerestory between 1869 and 1872 to accommodate the successful E. Jenckes and Company, also housed a succession of tenants (Photographs RI-1-52, 55, and 58). After this firm's departure in 1879, its use is unclear until 1889-90 when Job Spencer's son, Henry, began using the third story as a bicycle riding rink to complement his bicycle store next door (Photograph RI-1-55).¹²¹ After Henry's departure, shoe string manufacturing was conducted by the Green Mountain Braiding Company in 1902.¹²² By 1909, the New England Paper tube company was located there, sharing the floor with the stock belonging to Thomas J. Brennan, whose carpet cleaning and rug weaving business occupied part of the second story.¹²³ A. A. Lupien, first proprietor of the Pawtucket Electro-Plating Company, replaced the New England Paper Tube Company in 1913 and the space continued to be used by jeweler tool manufacturers until the building's restoration began in 1924.¹²⁴ (Photograph RI-1-60)

CHAPTER FOUR
SLATER MILL: HISTORIC SITE
(1924 - 1955)

In 1924 and 1925 the mill was restored by a consortium of Pawtucket businessmen to what was believed to be its form around 1835. As the appearance has changed very little since that time, this section will not give a detailed description of every feature after the restoration process. The measured drawings accompanying this text illustrate the mill in its present form much more clearly than would be possible here.

After the death of Slater Mill owner Job L. Spencer in 1919, the Pawtucket Chamber of Commerce was given an option to buy the building. One week before the option expired, a committee of prominent manufacturers met with local dignitaries, including Mayor Robert A. Kenyon, and agreed to acquire the property under the condition that they "shall forever preserve, maintain and use the said premises as a public memorial or museum in commemoration of the founding upon said premises of the first mill in America for the manufacture of cotton by Samuel Slater in the year 1793."¹²⁵ This committee became known as the "Old Slater Mill Association." In April 1923 a fundraising goal was set of \$250,000 to restore the mill, convert it into a museum, and set up an endowment fund to provide income for maintenance.¹²⁶

The Association, led by Henry Dexter, employed Boston architects Strickland, Blodget and Law to draw up the plans for restoration. A Pawtucket building firm, Willmarth-Mackillop, was contracted to undertake the construction work. Strickland, Blodget and Law submitted their proposal to Dexter in 1924, and these original blueprints, consisting of a north and a west elevation, are held at the Slater Mill Historic Site. The plans indicate that the architects' first intention was to rebuild the mill to a length of approximately 135 feet with eleven bays along the west wall to the left of the stair tower, whereas the actual length today is 140 feet with twelve bays. Furthermore the design incorporated a different form of monitor in the roof and a tall chimney on the east side. The fenestration was also different.¹²⁷

The project began in 1924. One of the first tasks was to clear the site of most of the other factories and workshops surrounding the mill, and by October 16, 1924, Henry Dexter was able to report "we have all buildings removed from the premises excepting the old Slater Mill."¹²⁸

An interview with Dexter in the Providence Sunday Journal of April 1923 outlined some of the association's fundamental objectives. These included removing the additions to the sides of the mill, laying new floors and stair treads and rebuilding the belfry "which began to go to pieces some time ago." Fortunately the framework of the mill was reportedly in good condition. Dexter also said that the Association intended to replank the trench, but that "as not much interest would attach to the fact that the wheel was restored, it is probable that nothing in that direction will be done."¹²⁹ The wheel pit therefore remains much as it was in 1925 and still contains the two turbines, a Jonval situated under the stair tower and a Francis located under the main section of the building.¹³⁰

Although the architects' plans furnish little valuable information on restoration decisions, correspondence between Henry Dexter and Strickland, Blodget and Law explains some of the changes. Bricks and timbers from the demolished buildings were used to replace damaged or missing members in the Slater Mill; Strickland & Co. also proposed using some old "gun posts" from the dismantled front part of the mill for this purpose. The framework of the building was fireproofed by the addition of brick linings.¹³¹

The removal of the post-1835 additions meant that large portions of the exterior had to be reconstructed. According to a "Completion Report" submitted in 1981 which outlined a plan to correct some of the inaccuracies of the restoration, up to seventy percent of the present fabric may date from the 1920s.¹³² The flat roof was removed; new rafters and roof sheathing were covered with asbestos shingles manufactured by the Johns-Manville Company "in imitation of the old shingles, with the corners broken off upon some of them and made in two dull tones or colours."¹³³ We assume that the intent was to imitate wooden not slate shingles since it is highly likely that the mill was shingled with wood in 1835. According to a letter from Henry Dexter to the architects, Dexter wished to see the current windows replaced by sashes with twelve lights in each measuring 6" x 8".¹³⁴ Strickland, Blodget and Law evidently overruled this, stating their intent to adhere to the 8" x 12" size found on the second floor and the 8" x 10" lights of the first floor as "these are in keeping with the date of the building. There are, undoubtedly, examples of smaller lights in buildings of the same date, but as a rule the small lights were of a period of more like a hundred and fifty years ago."¹³⁵ However the 1981 report suggests, based on evidence from an 1835 drawing, that it would have been more accurate to use Dexter's recommendation of twelve over twelve.¹³⁶ (It is important to note that this drawing by John Bartlett contains other inaccuracies and therefore must be treated with caution.) By late 1925 the restoration of the mill building and repairs to the dam were complete.¹³⁷ The restored dimensions, which still remain, were 140 feet 6 inches by 29 feet six inches, while the stair tower measured 18 feet 5 inches X 21 feet 2 inches, approximately the size of the building in 1835 (See Figure 9).

One feature of the restored building that does not date to 1835 is the elevated condition of the entire mill. As described in a previous section of this report, the building was raised by the insertion of a brick section to a level almost two feet higher than the original, while retaining the sills in an elevated position. Since such a fundamental alteration should be immediately obvious to an architect, it is probable that Strickland & Co. decided that this feature was consistent with the 1835 period, or that it would be too difficult to remove. Their correspondence with Dexter makes no mention of it at all.

Although refurbished by 1925, the Slater Mill was not destined to open as a museum for another thirty years. Most of the money available had been expended in the restoration process. The limited funds remaining were used for landscaping the surrounding grounds, installing security systems and building a separate boiler house to serve the mill without detracting from the historic accuracy. At some point asbestos shingles replaced the wood ones. Eventually, sufficient funds were available to appoint a full-time museum curator, Daniel Tower, in May 1952.¹³⁸ In 1955 a fund-raising program was launched to raise a further \$125,000, and the mill formally opened as a museum on July 23rd.¹³⁹

ENDNOTES

1. Two notable exceptions are both student papers done at Brown University under the direction of Patrick Malone. See Sarah Gleason, "An Architectural History of Slater Mill, Pawtucket, Rhode Island," (Brown University, 1980) and Dana McCleary and Ann McCleary, "No Worse for the Wear: History of the Adaptive Reuse of the Old Slater Mill," (Brown University, 1978).
2. For a detailed account of early Pawtucket industry and of the years immediately prior to the building of the mill, see Gary Kulik, "The Beginnings of the Industrial Revolution in America: Pawtucket, Rhode Island, 1672-1829," Ph.D Dissertation (Brown University, 1980).
3. North Providence Record of Deeds, Book 2, 348, Pawtucket City Hall. Throughout the 19th century, the names Pawtucket River and Blackstone River were used interchangeably. Today the Blackstone River runs to the main falls at Pawtucket. The tidal river just below the falls is called the Pawtucket River; closer to Providence, it is the Seekonk River.
4. Company Agreement of Almy and Brown, September 1, 1789. Company Agreements, Almy and Brown Papers, Rhode Island Historical Society (hereafter A + B Papers).
5. Gary Kulik, "The Beginnings of the Industrial Revolution in America," 148.
6. Ibid., 154.
7. Kennedy et al. v. Bucklin et al., Court of Common Pleas, Bristol County, Vol. 12, 214-215. Quoted in Kulik, "The Beginnings of the Industrial Revolution in America," 155.
8. For a detailed account of the dam's destruction and the court proceedings, see Gary Kulik, "A Factory System of Wood: Cultural and Technological Change in the Building of the First Cotton Mills," in Brooke Hindle, ed., Material Culture of the Wooden Age. (Tarrytown, New York: Sleepy Hollow Press, 1981), 304-307. Oziel Wilkinson to William Almy, October 17, 1792, Correspondence, 1792, A + B Papers. Samuel Slater to Moses Brown, November 29, 1792, Accounts Artisans, 1792, A + B Papers.
9. For an excellent discussion of the history of Sargeant's Trench, see Kulik, "The Beginnings of the Industrial Revolution in America."
10. Slater to Almy and Brown, September 4 and September 8, 1795, Accounts Pawtucket 1795, A + B Papers.
11. Slater to Almy and Brown, November 13, 1793, Accounts Pawtucket 1793, A + B Papers.
12. Louis Hunter, A History of Industrial Power in the United States, 1780-1930, Volume 1: Water Power in the Century of the Steam Engine. (Charlottesville: University of Virginia Press, 1979) 65.
13. Ibid., 67.
14. Ibid.

15. Deposition of George Jenks, November 8, 1823, Tyler v. Wilkinson, 24 Federal Case 472, 474 (U.S. Circuit Court, Rhode Island, 1827), 342, 343. Cotton machinery needed an efficient wheel to power the shafting, unlike the simpler grist or slitting mills which were situated on the trench.
16. Slater to Almy and Brown, November 13, 1793, A+B Accounts Pawtucket, 1793. Slater to Almy and Brown, November 14, 1793, Accounts Pawtucket, 1793. A+B Papers.
17. Slater to Almy and Brown, November 30, 1793, A & B Accounts Pawtucket, 1793.
18. Thanks to Bill Johnson of the Slater Mill Historic Site for his comments on this section.
19. Louis Hunter, A History of Industrial Power in the United States.
20. Almy and Brown's Account with Spinning Mill, (March 1, 1793) Vol.1 p.1. Slater Papers, Baker Library, Harvard Business School (hereafter SP).
21. Almy and Brown to Elisha Gott, March 9, 1793. Correspondence 1793, A + B Papers.
22. Bill dated April 8, 1793, Accounts Miscellaneous 1793. A + B Papers.
23. Almy and Brown's Account with Spinning Mills, Vol.1, SP.
24. Ibid.
25. David Martin, Entry May 11, 1793, Accounts Miscellaneous 1793, A + B Papers; David Jenckes, Almy and Brown's Account with Spinning Mills, Vol.1. SP, Baker Library, Harvard University.
26. Receipt dated June 7, 1793, Accounts Miscellaneous 1793. A + B Papers; Receipt dated June 6, 1793, Accounts Miscellaneous 1793. A + B Papers; Almy and Brown's Account with Spinning Mills, Vol.1, SP.
27. Ibid; "Report and Manifest of the Lading of the Sloop General Green" dated September 22, 1793. US Custom House Papers, Series 4 Foreign Manifests, Sub-series A (Inward Foreign Manifests) Box 3 RIHS.
28. This conclusion was reached by combining data from Plasterer's bill and Glazier's bill "to...glazing 672 squares of 8 by 6 sash for factory."
29. Jennifer Tann, The Development of the Factory. (London, 1970).
30. Abisha Washburn to Almy and Brown and S. Slater, April 1793, Accounts Miscellaneous 1793, A + B Papers.
31. S. Slater to Almy and Brown, November 9, 1793, Accounts Pawtucket 1793, A + B Papers; S. Slater to Almy and Brown, October 17, 1793, Accounts Pawtucket 1793, A + B Papers.
32. S. Slater to Almy and Brown, November 9, 1793, Accounts Pawtucket 1793, A + B Papers; S. Slater to Almy and Brown, November 14, 1793, Accounts Pawtucket 1793, A + B Papers.

33. White, Memoirs, 42.
34. S. Slater to Almy and Brown, May 31, 1793, Correspondence 1793, A + B Papers; S. Slater to Almy and Brown, July 24, 1793, Accounts Pawtucket, A + B Papers.
35. Almy and Brown to Christopher Lessingwell, August 14, 1793, Correspondence 1793, A + B Papers.
36. S. Slater to Almy and Brown, September 30, 1793, Accounts Pawtucket 1793, A + B Papers.
37. S. Slater to Almy and Brown, March 13, 1795, Accounts Pawtucket 1795, A + B Papers.
38. S. Slater to Almy and Brown, Accounts Pawtucket. A + B Papers.
39. Almy and Brown to Michael Trappal, June 26, 1794, Correspondence 1794. A + B Papers.
40. See, for example, Almy and Brown to Daniel Jackson & Son, March 27, 1793, Accounts Artisans 1794 and S. Slater to Walcuts Brass Works, April 23, 1794, Accounts Pawtucket 1794, A + B Papers. Jackson manufactured "brasses for 84 spindles" at one pound, eight shillings, and Walcuts made 188 brass wheels of different dimensions for six pounds eight shillings and two pence.
41. Almy and Brown to John Fox , June 10, 1794, Correspondence 1794. A + B Papers.
42. S. Slater to Almy and Brown, April 24, 1795, Accounts Pawtucket 1795. A + B Papers.
43. "Providence Mutual Fire Insurance Policys [sic]" 1-382, Policy #118. (We would like to acknowledge Bill Curtis of Providence Mutual for this document).
44. S. Slater to Almy and Brown, August 14 and 18, September 5, October 15, 1801, Accounts Pawtucket 1801. A + B Papers.
45. S. Slater to Almy and Brown, August 28, 1801, Accounts Pawtucket 1801. A + B Papers.
46. S. Slater to Almy and Brown, September 14, 1801, Accounts Pawtucket 1801, A + B Papers.
47. Ibid.
48. S. Slater to Almy and Brown, September 8, 1801, Accounts Pawtucket 1801. A + B Papers.
49. S. Slater to Almy and Brown, December 1, 1801, Accounts Pawtucket 1801. A + B Papers.
50. The original painting is in the Graphics Department of the Rhode Island Historical Society.

51. Record of Pawtucket Engine Company No.2, January 1, 1813, RIHS. Apparently, because of absenteeism and tardiness, this directive was reaffirmed in 1816 when it is "voted that the time of the company meeting shall be regulated by the clock in Almy, Brown and Slater's mill and when the meeting is called at any other hour besides that of the ringing of the bell it shall be the duty of the clerk to have that time." But in 1822 the Pawtucket Engine Company reconsidered its ten-year tradition and voted to have future meetings called by the bell on the Yellow Mill, located nearer the engine house on the east bank of the river.

52. For descriptions of the drought that exacerbated friction between mill owners, see for example the depositions of Simeon Daggett (February 10, 1824), 192 and Nathaniel G.B.Dexter (February 18, 1824) 207-208 in Tyler v. Wilkinson.

53. See, for example, the testimonies of Nathaniel G. B. Dexter (February 18, 1824) 208; Benjamin Pierce, (January 7, 1824) 319; William Daggett (November 6, 1823) 259; and Nathaniel B. Dexter (October 22, 1823) 159, Tyler et al. v. Wilkinson et al., 24 Federal Case 472, 474 (U.S. Circuit Court, Rhode Island, 1827).

54. Tyler et al. v. Wilkinson et al., National Archives, New England Branch.

55. Nathaniel G. B. Dexter, February 18, 1824, 208.

56. Nathaniel B. Dexter, October 22, 1823, 159.

57. Documents Relative to the Manufactures in the United States, Report to the 22nd Congress, 1st session, 1832, No. 42, 927. Thanks to Jim Conrad for his helpful thoughts on this mystery.

58. "A List of the Cotton Manufactories within 30 miles of the Town of Providence" November 14, 1804, Zachariah Allen Papers, Rhode Island Historical Society (hereafter ZA Papers); "List of Cotton Mills in Rhode Island," October 31, 1811, ZA Papers; Manufacturing Census for Massachusetts and Rhode Island, 1820, National Archives; "Statement of Cotton Mills and Spindles within 30 Miles of the Town of Providence," 1828, ZA Papers.

59. 1820 Manufacturing Census, Rhode Island and Massachusetts.

60. Thought to be original to this era, the stair tower as it stands today measures 18 feet 6 inches by 25 feet and is three stories high.

61. S. Slater to Almy and Brown, October 9, 1811, Accounts Pawtucket 1811. A + B Papers.

62. See the Providence Mutual Fire Insurance Company records, January 1, 1811, 25, November 12, 1811, Vol.1. For an excellent discussion on mill fire insurance companies and their influence on mill architecture, see Helena Wright, "Insurance Mapping and Industrial Archaeology," in IA: The Journal of the Society for Industrial Archaeology, 9 1 (1983) 1-18.

63. Pawtucket Engine Company No.2, Meetings, February 8, 1828; Pawtucket Gazette and Chronicle, February 8, 1828.

64. Tyler v. Wilkinson, May 13, 1824, 346; Tyler v. Wilkinson, June 15, 1836, Register No.4, 15.

65. Kulik, "The Beginnings of the Industrial Revolution in America," 340.

66. Ibid., 319-20.
67. Ibid., 337; Documents Relative to the Manufactures in the United States, 1832.
68. Ibid.
69. Deed, August 12, 1829, North Providence Record of Deeds, Book 6, 475. Pawtucket City Hall.
70. Bliss, The History of Rehoboth, Bristol County, Massachusetts, 1836.
71. Schedule of Manufactories, &c. in Rhode Island, April 1832.
72. Will dated February 24, 1846. Probate recorded April 7, 1846. Providence Record of Wills, Book 15, 294. Providence City Hall.
73. Lease dated April 6, 1846. Record of Deeds, North Providence Book 11, 467. Pawtucket City Hall.
74. Federal Census, Products of Industry, 1850, Rhode Island, 507, Rhode Island State Archives.
75. Providence Journal, 13 September 1853.
76. Will dated October 7, 1846, codicil added October 9, 1846, probate recorded December 25, 1849. Providence Record of Wills Book 16, 214. Providence City Hall.
77. Deed dated May 4, 1852, North Providence Book 17, 247; Deed dated February 15, 1856, North Providence Book 22, 110. Pawtucket City Hall.
78. Deed dated May 4, 1852, North Providence Book 17, 247; Deed dated February 15, 1856, North Providence Book 22, 110. Pawtucket City Hall.
79. Deed dated April 29, 1856, North Providence Book 22, 149-151.
80. Providence Daily Journal, 16 April 1856.
81. R.G. Dun Collection, Rhode Island Vol. 6, 173.
82. Deed January 30, 1857. Record of Deeds, North Providence Book 22, 290. Pawtucket City Hall.
83. Lease dated December 12, 1856. Record of Deeds, North Providence Book 22, 266-267. Pawtucket City Hall.
84. The partnership enjoyed an advantage over European manufactured haircloth by employing power looms, but these still needed to be fed by hand which slowed the process considerably. However in 1861, a Providence weaver named Isaac C. Lindsley who had been experimenting with a self-feeding device joined the company. Soon after coming to Pawtucket, Lindsley perfected the mechanism and it was quickly patented by the Haircloth Company. See Pawtucket Past and Present (1917); Goodrich Historical Sketch (1876), 47.
85. Lease dated June 17, 1856. Record of Deeds North Providence Book 22, 267. Pawtucket City Hall.

86. Lease dated May 9, 1859. Record of Deeds, North Providence Book 27, 80. Pawtucket City Hall.
87. Federal Census, Products of Industry, 1860 Rhode Island, 507. Rhode Island State Archives.
88. Deed: Henry and Edwin Jerauld to Robert Sherman, Daniel Hale and Ira Ellis dated February 20, 1865. Record of Deeds, North Providence Book 37, 202-3. Pawtucket City Hall.
89. R.G. Dun Collection, Rhode Island Vol.6, 173.
90. Deed May 17, 1865. Record of Deeds, North Providence Book 37, 157. Pawtucket City Hall.
91. R.G. Dun Collection, Rhode Island Vol. 6, 360.
92. Lease dated May 9, 1859. Record of Deeds, North Providence Book 27, 80. Pawtucket City Hall; Lease dated April 29, 1867. Record of Deeds, North Providence Book 42, 54. Pawtucket City Hall. N.B. Turbines were commonly referred to as iron wheels at this time.
93. Webb's New England Railway and Manufacturers' Statistical Gazetteer, 1869, 94-95; Louis Hunter in his book Water Power (1979) states that Kilburn wheels were of "simple construction, relatively low capacity and probably of only moderately good efficiency" but were "superior in many ways to conventional waterwheels for establishments with modest power needs." 325.
94. R.G. Dun Collection, Rhode Island, Vol.6, 360.
95. Lease dated April 29, 1867. Record of Deeds, North Providence, Book 42, 54.
96. Webb's New England Railway and Manufacturers' Statistical Gazetteer, 1869, 428-429.
97. Ibid., 429.
98. R.G. Dun Collection, Rhode Island, Vol. 6, 221.
99. Goodrich, Historical Sketch, 101-102.
100. This is the only known photograph of the mill showing this single-story addition. We are extremely grateful to Betty Johnson of the Spaulding House Research Library for allowing us access to such a valuable piece of evidence.
101. It is possible that the section above the trench was built at the same time that the owners increased the one-story addition to the height of the rest of the structure. However, photograph A precludes this by depicting the addition at its optimum length as a single-story erection.
102. Webb's New England Railway and Manufacturers' Statistical Gazetteer, 428. Webb also gives the overall dimensions as 140' X 38'. However, since we know that the mill was never 38 feet wide, this was probably a typographical error.
103. Pawtucket Gazette and Chronicle, 17 January 1873.

104. R.G. Dun Collection, Vol. 6, 360.
105. Deed dated January 16, 1869. Record of Deeds, North Providence Book 47, 541-3. Pawtucket City Hall.
106. Pawtucket Gazette and Chronicle, 17 January 1873.
107. George M Rex, Celebration of the 100th Anniversary of Cotton Spinning in America, 1890 Pawtucket, Rhode Island, September 1890.
108. Barlow's Insurance Survey, No. 3191, Museum of American Textile History. There appears to be an error in the dimensions of the building which are given as 50' x 130'. Either the building was improperly measured or the error was typographical. As Barlow's surveys focused on the risk of fire to a building, accurate dimensions would not necessarily have been important.
109. Lease dated April 29, 1867. Record of Deeds, North Providence Book 42, 54. Pawtucket City Hall.
110. Barlow's Insurance Survey, No. 3191, Supplement.
111. Sanborn Map, 1902.
112. Ibid.
113. Pawtucket and Central Falls Directory, 1896, 1899.
114. Obituary, James A. Moncrief, Pawtucket Gazette and Chronicle, 29 July 1910.
115. Ibid., May 3, 1901; Pawtucket and Central Falls Directory, 1901, 1902.
- 116.. The Pawtucket Steamboat Company became the Pawtucket Machine and Tool Company in 1916 and then changed its name to the Moncrief Machine Company.
117. Pawtucket and Central Falls Directory, 1900-1912. The fire of May 7, 1912, destroyed his uninsured business, and in 1913, Hill is noted as the superintendent of the Old Slater Mill. He returns in 1922 as a manufacturer of "baby carriage robes, shawls and antique rugs." See Directory 1922. For a detailed description of the second fire of 1912, see Evening Times, Pawtucket, May 7, 1912.
118. See appendix for a complete list of occupants from 1793 to 1924.
119. See Barlow's Insurance Survey, Supplement, October 1879 and Pawtucket and Central Falls Directory, 1880.
120. See Pawtucket and Central Falls Directory.
121. Sanborn, 1890; Directory, 1889, 1890.
122. Sanborn, 1902; Directory, 1902, 1903.
123. Pawtucket and Central Falls Directory, 1909. See also a description of the occupants' locations and the effects of the fire of May 7, 1912 in Evening Times, Pawtucket, 7 May 1912.

124. Pawtucket and Central Falls Directory, 1913-1924.
125. Deed: Slater Trust Company to S. Willard Thayer, June 14, 1920. Record of Deeds, Pawtucket Book 207, 434-5. Pawtucket City Hall; Providence Journal, May 26, 1920.
126. Providence Sunday Journal, 22 April 1923.
127. "Proposed Restoration of the Slater Mill and House," Strickland, Blodget and Law, Charles N. Read, Boston. Slater Mill Historic Site Collection.
128. Letter, October 16, 1924, Henry Dexter to H. Nelson Slater, Slater Mill Historic Site Collection.
129. Providence Sunday Journal, 22 April 1922.
130. The Jonval turbine is of downward or axial flow design, whereby water enters at the top, is passed down through the guides to and through the wheel and is discharged through the tailrace below. The other is a Francis turbine of inward flow design; water is admitted at all points of the circumference, passed through the buckets and discharged at the bottom. See Louis Hunter, Water Power (1979), 322.
131. Strickland, Blodget and Law to Henry Dexter, June 20, 1924.
132. "Old Slater Mill Completion Report" June 1981, 7.
133. Henry Dexter to Strickland, Blodget and Law, September 17, 1924; and Willmarth-Mackillop to Henry Dexter, October 3, 1924, Slater Mill Historic Site Collection.
134. Henry Dexter to Strickland, Blodget and Law, September 17, 1924, Slater Mill Historic Site Collection.
135. Strickland, Blodget and Law to Henry Dexter, September 22, 1924, Slater Mill Historic Site Collection.
136. "Old Slater Mill Completion Report" June 1981, 13.
137. Willmarth-Mackillop to Old Slater Mill Association, October 28, 1925, Slater Mill Historic Site Collection.
138. Pawtucket Times, 28 May 1952.
139. Pawtucket Times, 12 July 1955.

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Slater Mill Historic Site Collection.

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Zachariah Allen Papers, Rhode Island Historical Society.

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APPENDIX 1 METHODOLOGY

The historians on this project consciously chose to base their report almost solely on primary sources and material evidence. Inevitably, this means there are some gaps in the historical record; although additional information could be supplied by nineteenth and some twentieth century secondary sources, we have avoided relying on these for our evidence. We have found too many examples where information is passed from one secondary source to another without any verification. By the late nineteenth century the "Old Slater Mill," as it was known, had taken on a certain mystique among antiquarians and historians of the cotton textile industry and the American industrial revolution. Also, by this time Samuel Slater had become mythologized by his biographers. Thus all secondary information has been treated as suspect; nevertheless, we have tried to confirm secondary material whenever possible.

Many of our efforts, however, to track down primary sources were unsuccessful, several examples of which are noted below.

Insurance Records

One of the earliest records of the dimensions of the Slater Mill is found in the Providence Mutual Fire Insurance Records. However, after 1815, Providence Mutual refused to insure any cotton mills.¹ Unfortunately, no other early insurance company records shed light on what company might have covered the Old Slater Mill building after 1815. Those investigated include Allendale Mutual in Allendale, Rhode Island and the Factory Mutuals in Norwood, Massachusetts. Two other early local insurance companies, Washington Insurance Company and Providence Insurance Company, both of Providence, which merged to become the Providence Washington Insurance Company, have no record of insuring the Slater Mill.² Insurance maps, such as Barlow's Survey of 1876 and the Sanborn surveys of 1884, 1890, 1902, 1923, 1949 do provide rich detail, but the period before 1876 is sorely lacking in adequate description of the mill.

1924-25 Reconstruction

In 1924 the Old Slater Mill Association hired the Boston architectural firm of Strickland, Blodgett and Law. We attempted to locate the architectural drawings that were executed for the reconstruction by contacting the Boston architectural firm of Freeman, Brigham and Hussey, descendant of Strickland, Blodgett and Law. Charles Strickland had given the firm's architectural drawings to the Boston Public Library Prints Department. According to Mr. Hussey, the Slater Mill drawings were not included in the collection. He also noted that many of the firm's drawings were lost in a fire in the 1940s at the Strickland family's Pine Hills estate in Plymouth, Massachusetts.³ We also reviewed the Charles Strickland collection at the Boston Public Library and verified that the Slater Mill drawings were not included in the collection transfer. In the collection, preliminary drawings sent by the firm to Henry Dexter outline some of their basic ideas for the restoration, but these are not very helpful. The lost drawings, however, would prove immensely important to the mill's documentation. According to Mr. Hussey, Sydney Strickland was well-known for his detailed documentation of a structure before the firm recommended any alterations. Copies of his 1924 photographs of the mill are located at the Slater Mill Historic Site and are invaluable records.

NOTES

1. At an annual general meeting of the directors on January 1, 1811, it was "voted and resolved that in future no insurance shall be made on any Cotton Mill on the machinery therein, exceeding over half the value thereof -- Resolved that in future not more than two thirds the am't be insured on any property by this company, except a brick or stone building." Providence Mutual Annual Meeting Records, 1, 25. At a Special General Meeting on November 12, 1811, it was "voted that the Directors be directed not to make any more insurance on Cotton Factories." Providence Mutual Annual Meeting Records, 1, 31. Special Thanks to Bill Curtis of Providence Mutual for allowing us access to these records.

2. We surveyed the Directors' Meeting Records of the Providence Washington, 1-4 (January 10, 1800 to December 27, 1938) and the Dividend Payment Books (1832-1836). Special Thanks to Robin Keane of the Providence Washington Insurance Company.

3. Telephone conversation with Chris Hussey, July 15, 1991.

APPENDIX 2

SLATER MILL OWNERS, 1791-1925
(CHAIN OF TITLE)

Sources:

- North Providence and Pawtucket Deed Record Books,
Pawtucket City Hall, Pawtucket, RI.
- Will Books, Providence City Hall, Providence, RI.

Cynthia Jenks

- to Moses Brown and Oziel Wilkinson (November 12, 1791)
North Providence, Deed Book 2, p. 348.

Moses Brown

- to William Almy and Obadiah Brown (July 21, 1801)
North Providence, Deed Book 3, p. 559.
- to Samuel Slater (July 21, 1801)
North Providence, Deed Book 3, p. 103.

Samuel Slater

- to William Almy and William Jenkins (August 12, 1829)
North Providence, Deed Book 6, p. 475.

William Jenkins

- to Anna A. Jenkins (March 10, 1846)
Providence, Will Book 15, p. 294.

Anna A. Jenkins (December 25, 1849)

- Providence, Will Book 16, pp. 214-223.

Anna A. Jenkins

- to Samuel Boyd Tobey (May 4, 1852)
North Providence, Deed Book 17, p. 247.

Moses B. Jenkins

- to Samuel Boyd Tobey (February 15, 1856)
North Providence, Deed Book 22, pp. 110-112.

Samuel Boyd Tobey

- to Henry Jerauld and Edwin Jerauld (April 29, 1856)
North Providence, Deed Book 22, pp. 149-151.

Henry and Edwin Jerauld

- to Robert Sherman, Daniel Hale and Ira D. Ellis
(February 20, 1865)
North Providence, Deed Book 37, pp. 202-203.

Robert Sherman, Daniel Hale and Ira D. Ellis

- to Francis Pratt and Job L. Spencer (May 17, 1865)
North Providence, Deed Book 37, pp. 157-158.

Francis Pratt and Job L. Spencer

- to Gideon L. Spencer (January 16, 1869)
North Providence, Deed Book 47, pp. 541-543.

Gideon L. Spencer

- to Erastus B. Sampson (November 11, 1876)
Pawtucket, Deed Book 22, pp. 84-86.

Erastus B. Sampson
to Gideon L. Spencer (March 31, 1886)
Pawtucket, Deed Book 41, p. 47.

Executors of Gideon L. Spencer's estate
to Job L. Spencer (May 15, 1902)
Pawtucket, Deed Book 95, p. 482.

Slater Trust Company, Executors of Job L. Spencer's estate
to S. Willard Thayer (June 14, 1920)
Pawtucket, Deed Book 207, pp. 434-435.

S. Willard Thayer
to Old Slater Mill Association (December 31, 1923)
Pawtucket, Deed Book 241, pp. 189-190.

APPENDIX 3
SLATER MILL OCCUPANTS, 1793-1925

Sources:

North Providence Deed Records, Pawtucket City Hall
Pawtucket and Central Falls Directory, 1869-1925
Barlow's Insurance Map Survey, 1876-1879
Sanborn Insurance Map Surveys, 1884 1890, 1902, 1923.
Pawtucket Gazette and Chronicle
Webb's Statistical Guide and Gazetteer, 1869

Almy, Brown and Slater -preparing and spinning cotton [occupied entire building]	1793-1829
William Almy and William Jenkins	1829-1836
William Jenkins -preparing and spinning cotton -weaving [occupied entire building]	-1846
Gideon C. Smith, Joseph and Ruben Peckham -preparing and spinning cotton -weaving, sheeting and shirtings [occupied entire building]	1846-1856
Henry Jerauld and Son -spinning and weaving cotton [occupied 2nd story]	1856-1865
Pawtucket Haircloth Company (David and James Ryder, George and Alfred Littlefield, Freeman Baxter) [occupied 1st story]	1856-1864
Fessenden Twine and Cordage Company (Benjamin and Samuel Fessenden) -spinning and weaving cotton [occupied 2nd story]	1859- c.1865
Pratt and Spencer Job L. Spencer, agent -preparing and spinning cotton [occupied 1st story]	1865-1878 -1895
N.P. Hicks and Company E. Jenckes and Company -manufacturers of ring travellers, belt hooks, screw goods, spinning rings [occupied 2nd and 3rd stories]	1867-1871 -1879
Pawtucket Cardboard Company	1881-1883

[occupied 2nd story]

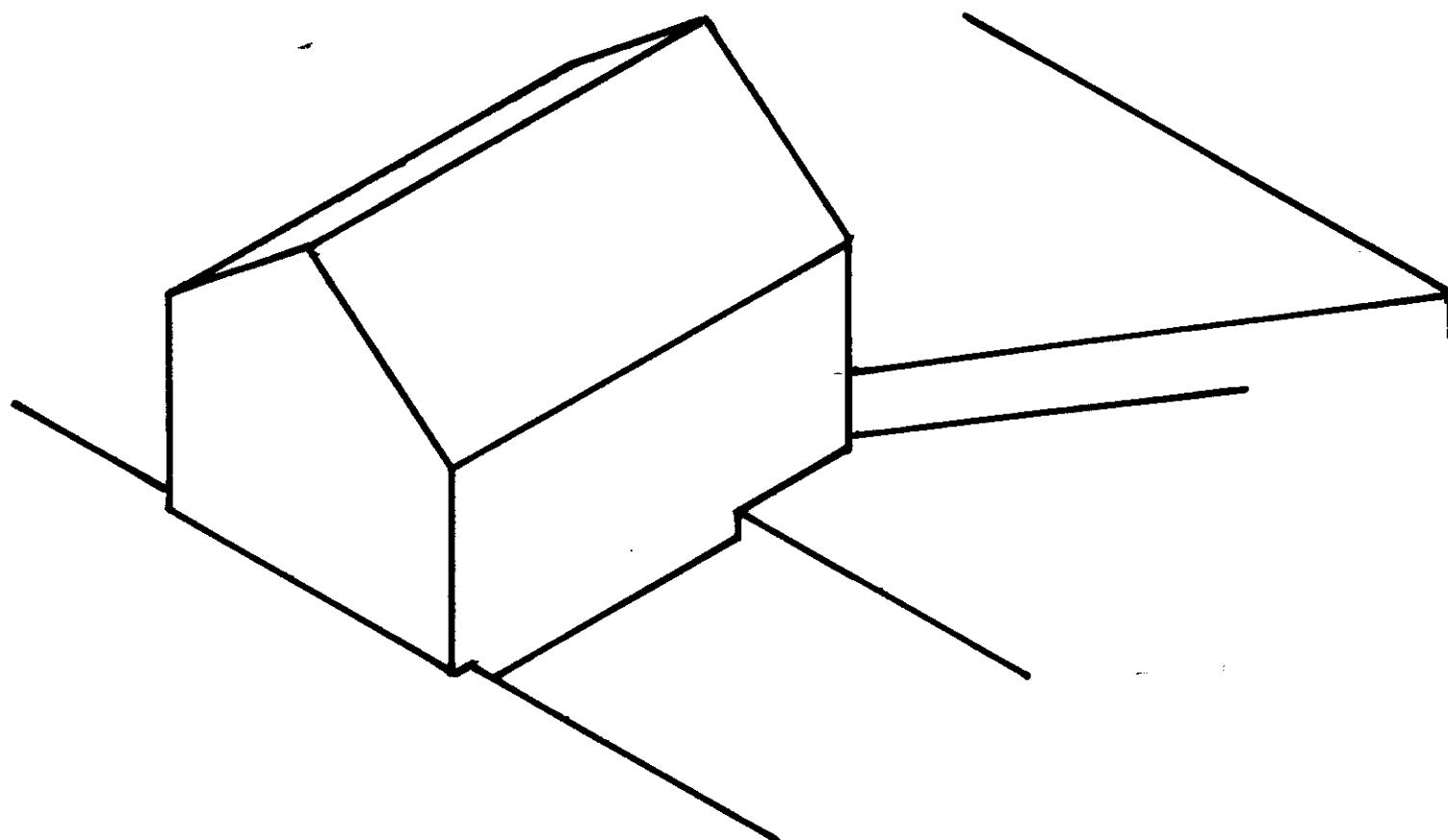
J. Crocker and Son -wire and sheet metal goods, coffin trimmings manufacturers Frank I. Frost (with J. Crocker and Son) -jeweler's tools: dies, hubs, cutters [occupied 2nd story]	1886-1893
Henry L. Spencer -bicycle sales, riding rink, [occupied 3rd story, north end]	1886-1891
Electrical Specialty Company -electrical supplies	1891-1892
Owen E. McKenna -belting and lace, leather manufacturer [occupied 2nd story]	1892-1923
Charles A. Spooner and Company -jeweler's tools	1892
John Marshall and Company -hats	1895
James C. Doran -metalworker	1895
Pawtucket Steamboat Company [also Pawtucket Machine and Tool and Moncrief Machine Company] -machinists [occupied 1st story]	1900-1923
William Hill afghan shawls and rugs [occupied 1st story, south end]	1900-1912; 1922-1923
Green Mountain Braiding Company [occupied 3rd story, south end]	1900-1902
Daniel A. Everly -flannel and linen	1900
Thomas J. Brennan -carpet cleaning and rug weaving [occupied part of 2nd story and 3rd story, south end]	1904-1923
Clifford G. King -jeweler's supplies	1905-1907
Slade Tubing Company	1907
Despard J. Holmes -woodturner	1909-1913

New England Paper Tube Company [occupied 2nd story, north end]	1909-1912
Pawtucket Saw and Knife Works	1910-1911
D. Edgar Coe, U.S. Band Company -household novelties, metalworking	1910
Alfred Coe, Colortype Company -colortyping	1910
Conrad Erickson Company -polishing and nickel plating	1912
Pawtucket Electro-plating Company Proprietors	1913-1923
A. A. Lupien	1913-1914
Sanderson Mfg Co.	1915-1916
Johnson & Hanley	1917-1918
Samuel G. Weisman	1919-1920
Bernard Smith	1921
O'Kane and Robinson	1922
William Robinson	1923
[occupied 2nd and 3rd stories]	
Pawtucket Standard Braid Company [occupied 2nd story]	1913-1921
Union Metal Goods Company -wire specialties	1919-1920
deal Thread Works Converters	1923

APPENDIX 4
FIGURES SHOWING EVOLUTION OF MILL STRUCTURE

SLATER MILL

SLATER MILL
HAER No. RI-1
(Page 43)

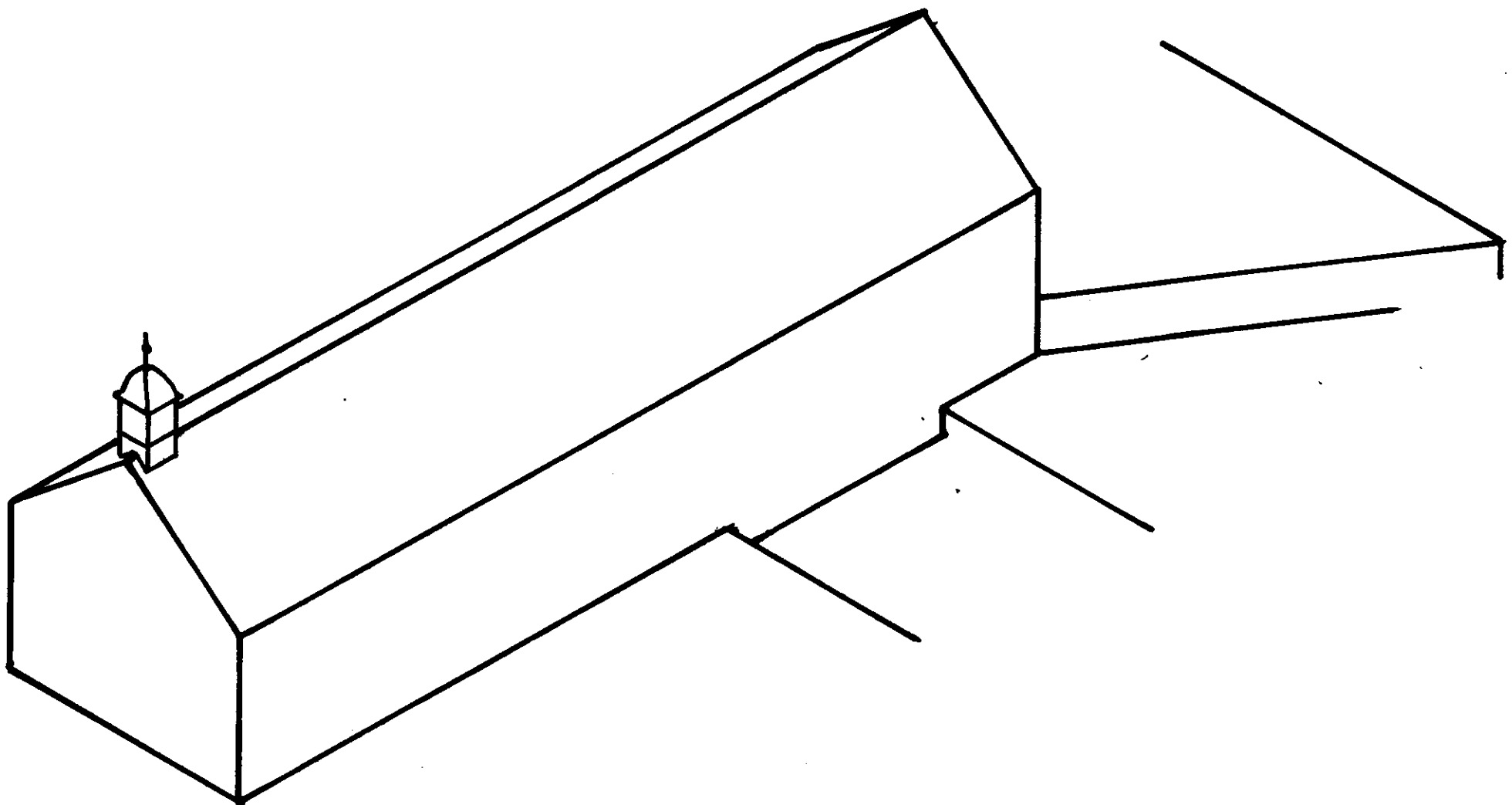


1793

FIG. 1

SLATER MILL

SLATER MILL
HAER No. RI-1
(Page 44)



1801

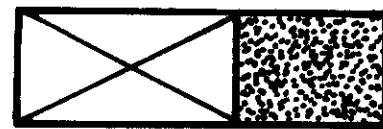
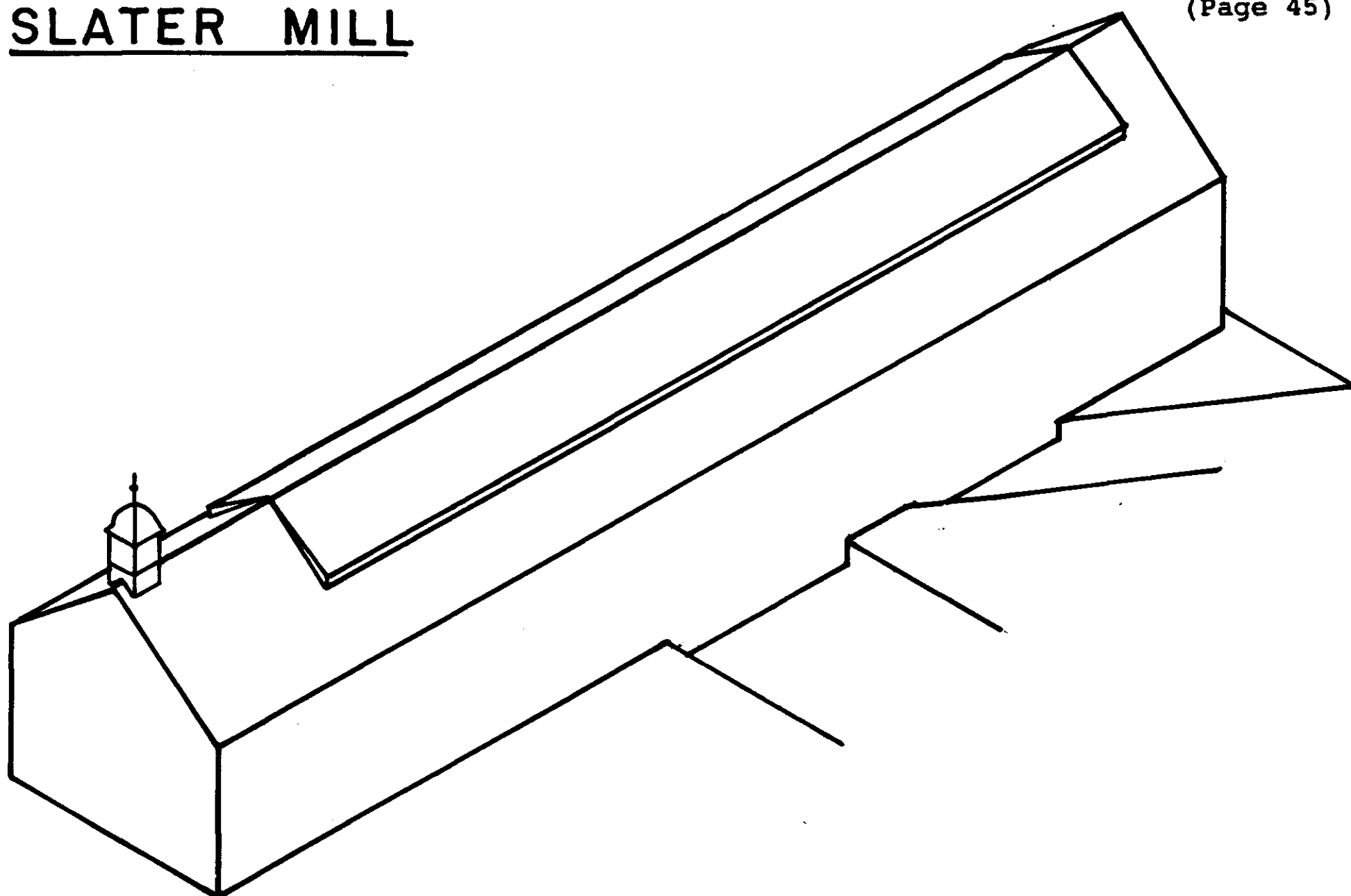


FIG. 2

SLATER MILL

SLATER MILL
HAER No. RI-1
(Page 45)

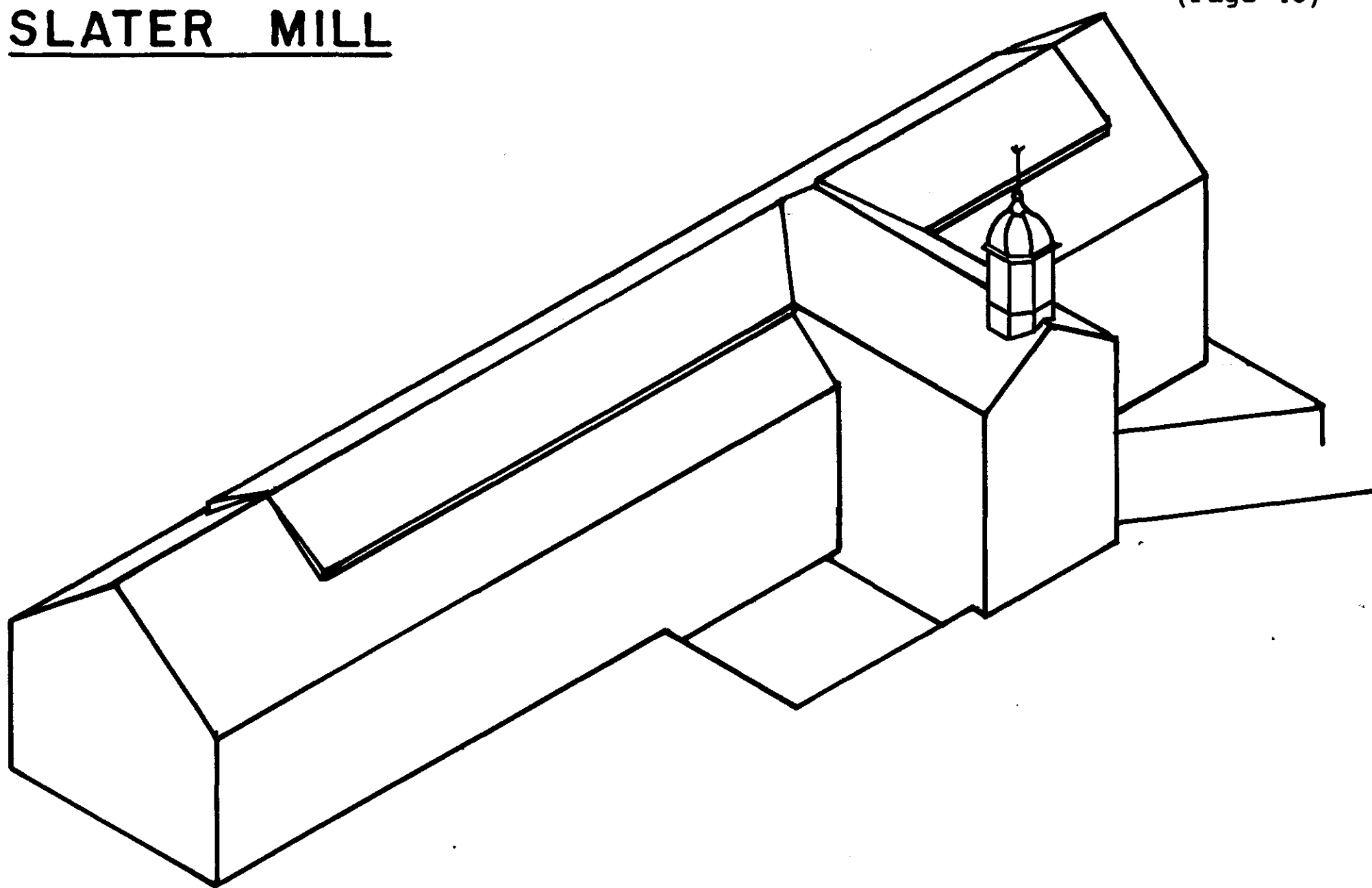


1818-1820



FIG. 3

SLATER MILL



1828 - 1832

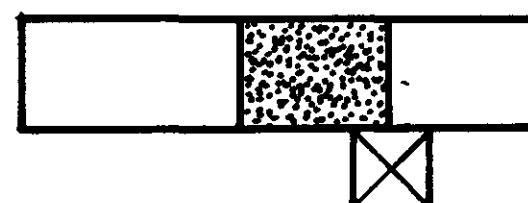
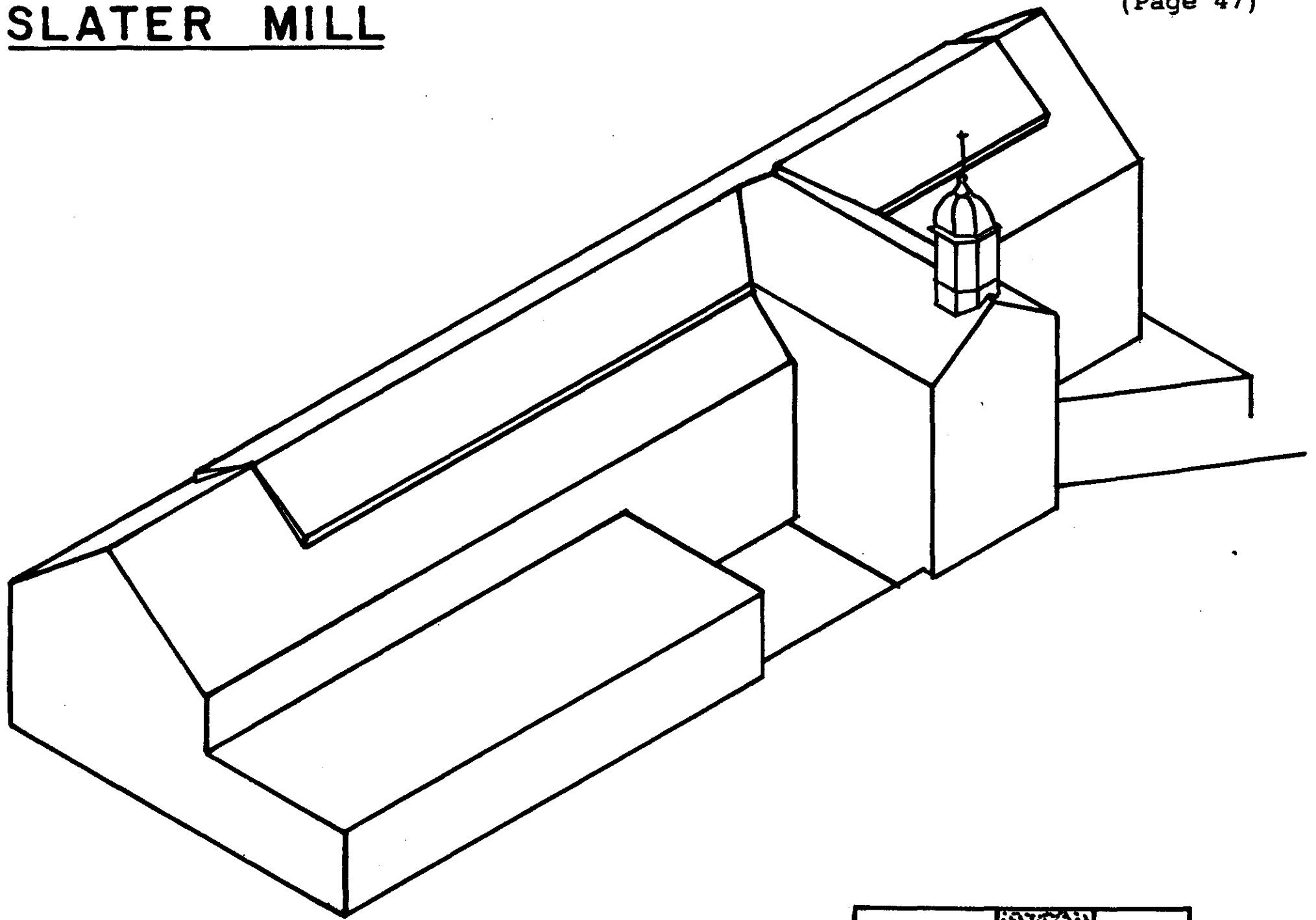


FIG. 4

SLATER MILL



1869-1872

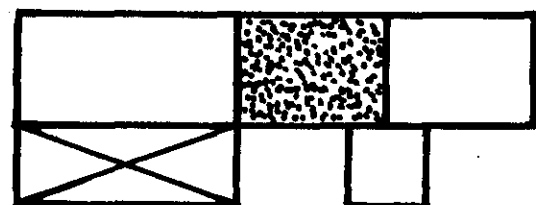
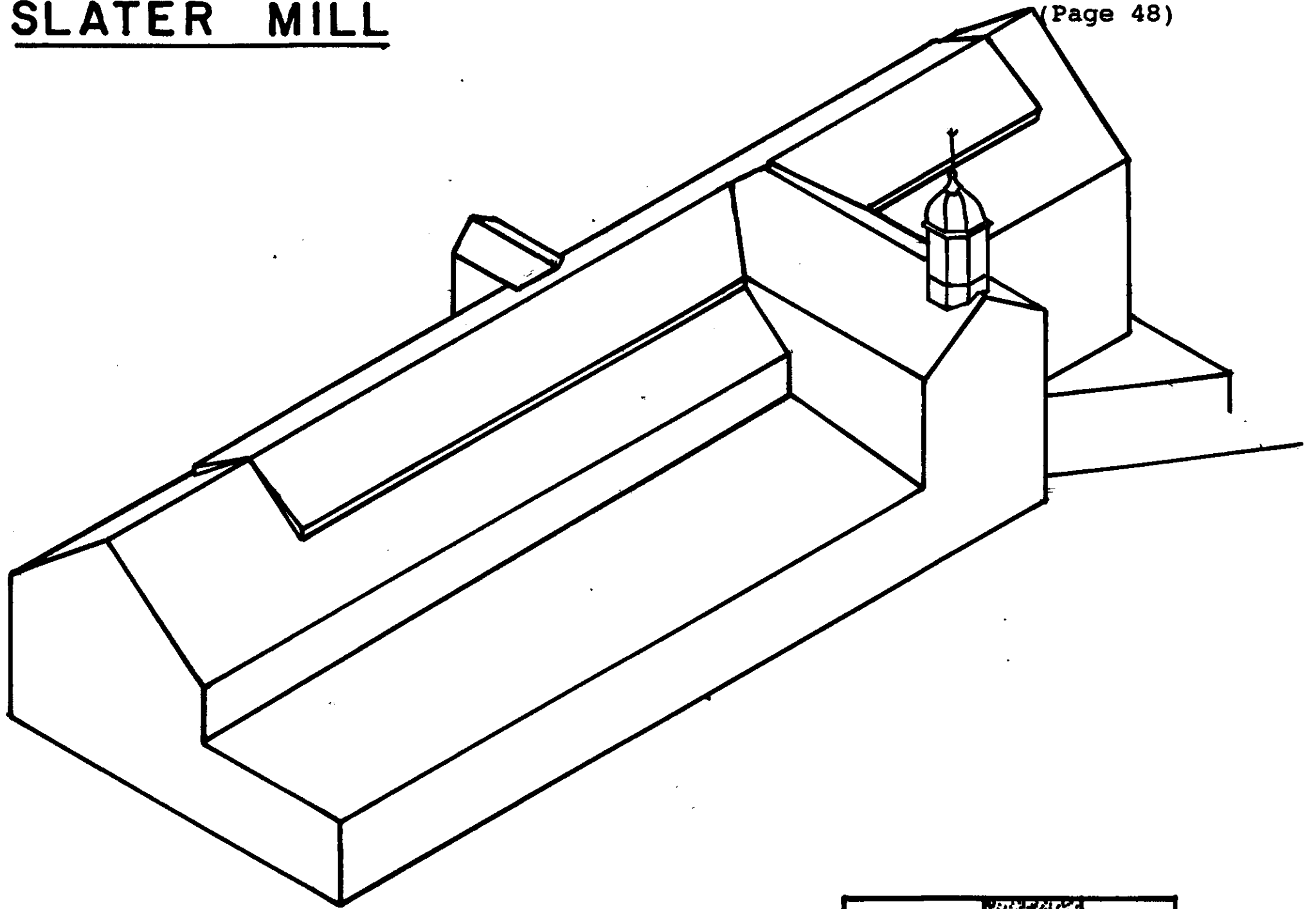


FIG. 5

SLATER MILL

SLATER MILL
HAER No. RI-1
(Page 48)



1869-1872

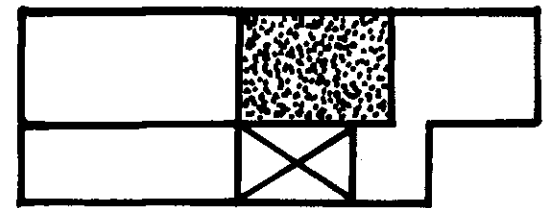
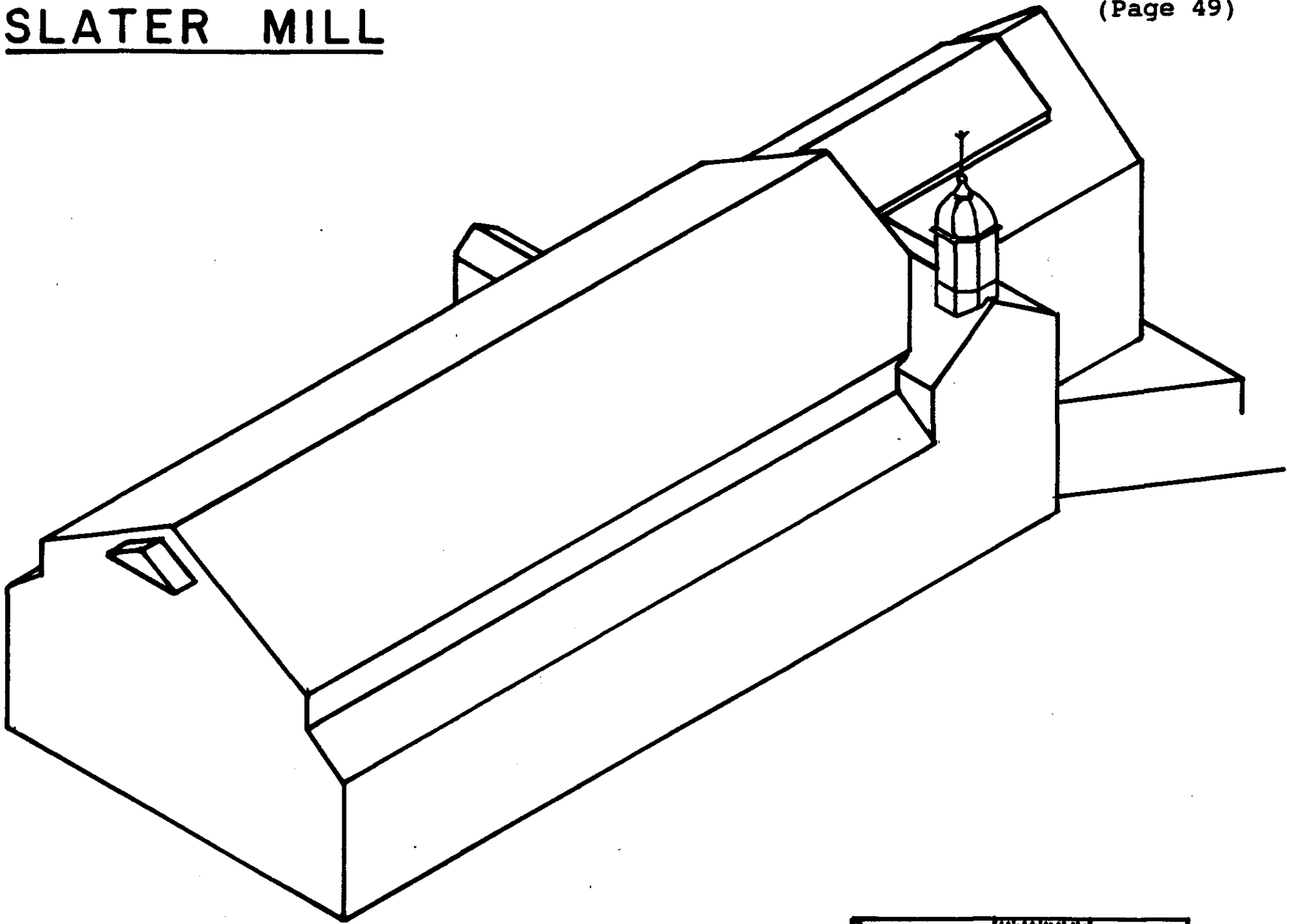


FIG. 6

SLATER MILL

SLATER MILL
HAER No. RI-1
(Page 49)



1872

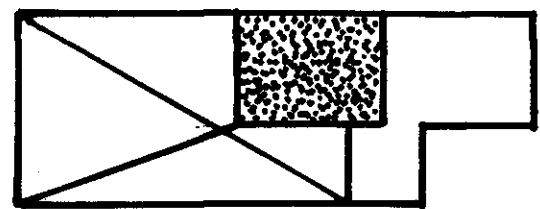
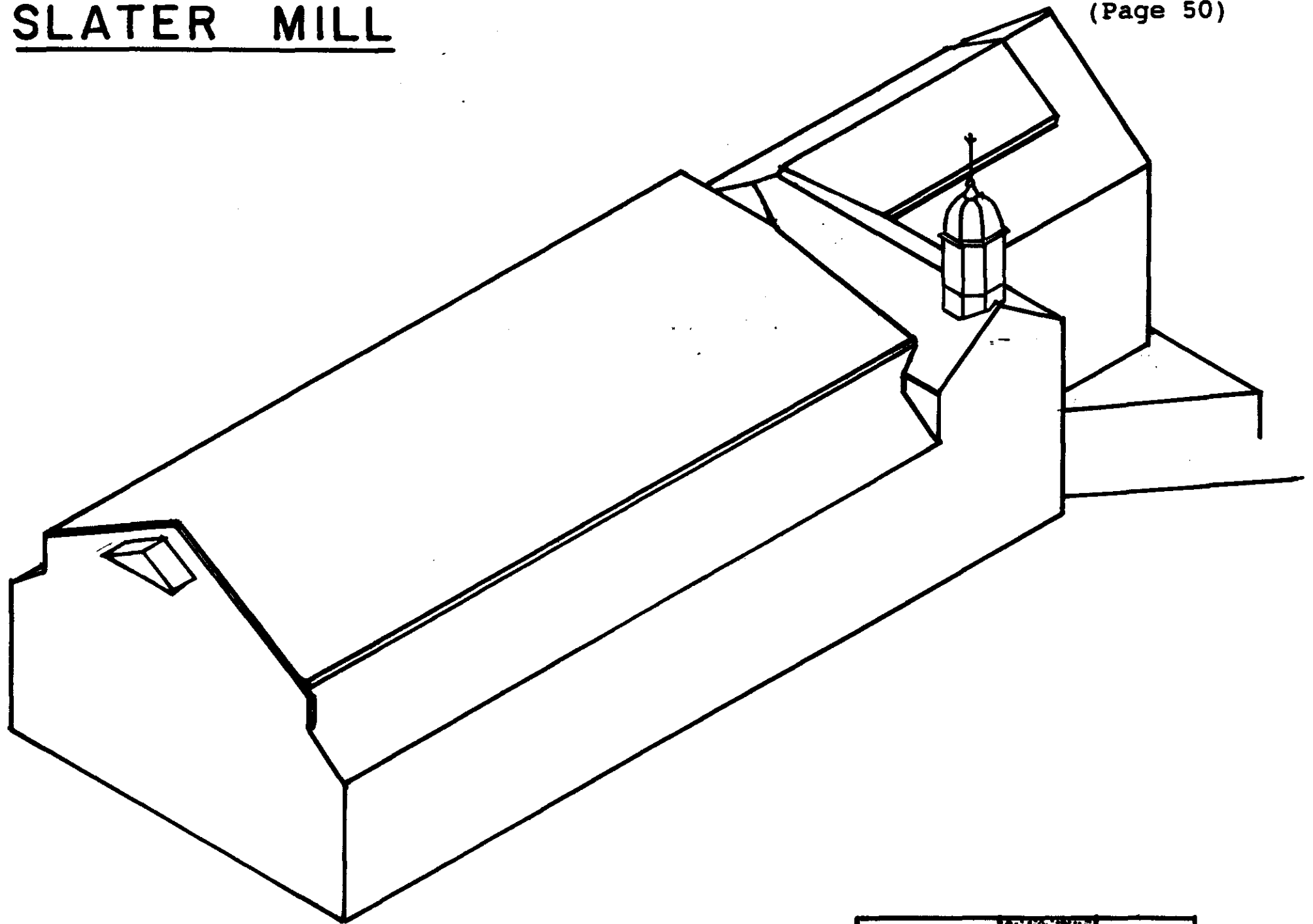


FIG. 7

SLATER MILL

SLATER MILL
HAER No. RI-1
(Page 50)



1912

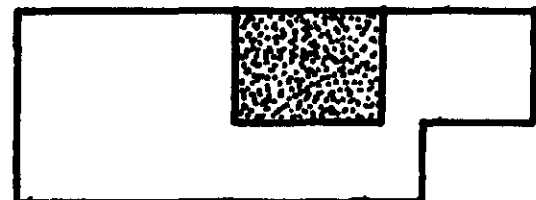
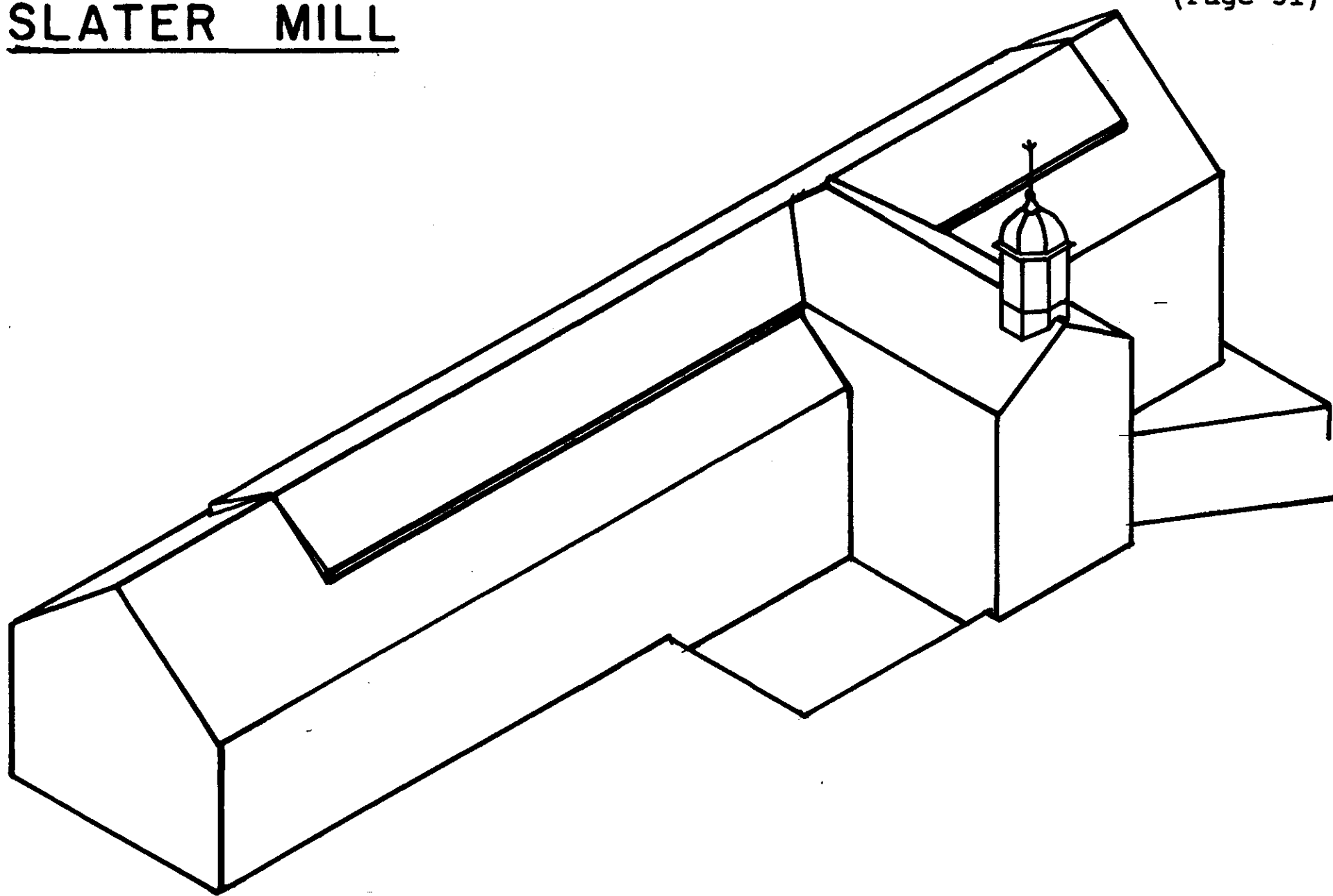


FIG. 8

SLATER MILL

SLATER MILL
HAER No. RI-1
(Page 51)



1925

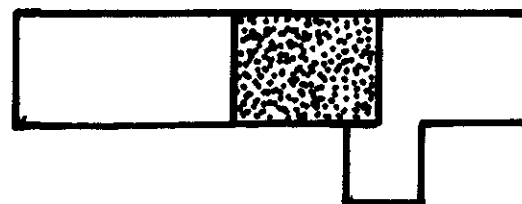


FIG. 9